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SCHOOL AND SOCIETY

Volume XXVI SATURDAY, DECEMBER 17, 1927 Number 677

STATISTICS OF REGISTRATION IN AMERICAN UNIVERSITIES AND COLLEGES, 1927

ENROLMENT in American colleges and universities has increased 25 per cent. in the past five years, according to reports received from 211 institutions on the approved list of the Association of American Universities showing their registrations for November 1, 1927, as compared with November 1, 1922.

Forty-two of the largest universities—those having more than 3,000 students—have expanded 28 per cent. The growth in the group of universities having from 1,000 to 3,000 enrolment was 20 per cent. The third group of 58 colleges of 500 to 1,000 had an advance of 23 per cent. The smallest increase, 15 per cent., was in the 55 smallest colleges having student bodies under 500. In their enrolment of full-time students these 211 approved institutions have a total of 410,712, or an increase of 81,829 in the past five years. The following table summarizes these increases.

FIVE-YEAR INCREASES IN FULL-TIME ENROLMENT

No. of Inst.	Size of Group	Enrolment 1927	Enrolment 1922	Increase
42	3,000+ up	244,561	191,031	28%
56	1,000–3,000	105,303	87,331	20%
58	500–1,000	40,609	32,876	23%
55	Up to 500	20,239	17,645	15%
211	.....	410,712	328,883	25%

Table I gives figures in detail of universities which have been included for some years in statistical articles in *Science* and later in SCHOOL AND SOCIETY. Table III supplies a less detailed report upon students and teachers of additional institutions with the aim of making the study broader. The institutions asked to furnish statistics were those on the list approved by the Association of American Universities.

Following the differentiation introduced in this series in 1920, Tables I, II and III are arranged to bring out clearly the enrolment of full-time and of part-time students. The full-time regular student is defined for this series as a student who has completed a four-year high-school course and is devoting his full time (twelve hours a week or more) to study during the collegiate year. The student whose main time and attention are given to some other employment and who takes college and university courses in late afternoon, evening and Saturday classes is listed as a part-time student. The grand total figures for 1927 include full-time regular students, part-time students and summer school students of 1927 but do not include extension and correspondence students, who are, however, recorded in Table I.

Some universities, particularly the large urban institutions, had in past years found it inconvenient to classify students as to full-time and part-time attendance. The foregoing definitions of these terms, as used in the SCHOOL AND SOCIETY series, were endorsed by the American Association of Collegiate Registrars at its 1922 meeting, and all the enrolments are now reported on this basis.

Table II gives a list of the twenty-five largest institutions of those considered in this series.

The size order of enrolment in the ten largest liberal arts colleges or departments is as follows: California (including South-

TABLE I

	California	Chicago	Cincinnati	Columbia	Cornell	Harvard	Illinois	Indiana	Iowa	Johns Hopkins	Kansas	Michigan	Minnesota
College men	4002	1599	475	1885	1269	3252	2071	1399	1562	419	1395	3368	2568
College women	5690	1385	552	1019	629	...	2145	985	1369	...	978	1652	1884
Engineering	1234	...	1400	185	1182	280	1913	...	288	306	534	1179	1592
Law	336	419	145	802	175	1535	386	106	211	...	136	565	296
Medicine	257	523	266	424	263	522	483	419	448	281	218	666	617
Graduate school	1489	1421	59	2435	630	893	769	204	618	477	222	804	1016
Agriculture	387	...	...	...	664	...	625	...	...	...	...	...	744
Architecture	...	...	...	87	182	77	...	...	...	...	...	328	...
Art	116	...	...	...	11	...	*	6	*	...	313	*	...
Commerce	928	264	...	324	...	745	1868	171	238	70	111	89	281
Dentistry	293	...	...	214	...	133	193	224	213	...	...	374	273
Divinity	...	270	...	...	...	86	...	...	...	...	...	...	...
Education	2752	73	211	4610	638	360	887	1385	*	*	95	496	1389
Forestry	59	...	...	...	123	...	*	...	...	...	...	24	*
Journalism	...	...	...	139	...	...	49	...	*	...	...	*	*
Music	41	...	...	...	...	...	135	87	138	...	...	*	*
Pharmacy	305	...	...	829	...	...	620	...	98	...	80	96	146
Other courses	324	113	433	486	558	147	122	173	298	143	58	236	587
Deduct duplicates	902	349	...	164	969	...	233	1077	137	...	138	177	86
Total	17311	5718	3541	13275	5355	8030	12033	4082	5345	1696	4002	9700	11307
Part-time	...	2310	5068	7832	...	...	...	84	198	1678	89	...	...
Summer session	9857	6474	1079	13857	2053	2844	2254	1919	3085	1165	1680	3666	5444
Deduct duplicates	1634	1823	...	2720	...	...	893	826	977	450	592	1666	...
Gd. tot., Nov. 1, '27	25534	12679	9688	32244	7408	10874	13394	5259	7651	4089	5179	11700	16751
Gd. tot., Nov. 1, '22	20983	11875	5239	27339	7234	8683	10440	4800	6191	3638	4881	10913	11767
Gd. tot., Nov. 1, '17	9079	8061	3072	11377	5102	3769	5370	2420	3082	2317	2730	5470	5078
Exten. courses	11766	...	812	3000	...	1324	134	...	1516	...	227	914	3549
Teaching staff	1387	752	492	2075	936	1088	971	298	550	550	375	689	800
Administrative staff	58	70	14	71	13	107	45	30	...	10	16	67	78

* Included elsewhere.

ern Branch), 9,692; Wisconsin, 6,747; Michigan, 5,020; Minnesota, 4,452; Illinois, 4,216; New York University, 4,609; College of the City of New York, 3,802; Harvard, 3,252; Texas, 3,277; Columbia, 2,904.

The enrolment of men undergraduates in the five largest liberal arts colleges or departments is as follows: California (including Southern Branch), 4,002; Wisconsin, 3,868; College of the City of New York, 3,802; Michigan, 3,368; New York University, 3,324.

The size order for women undergraduate enrolment in the five largest coeducational universities is as follows: California (including Southern Branch), 5,690; Wisconsin, 2,879; Illinois, 2,145; Minnesota, 1,884; Michigan, 1,652.

The ten largest exclusively women's colleges on this list are: Hunter, 4,041; Smith, 2,077; Wellesley, 1,533; Simmons, 1,416; Florida State College for Women, 1,401; Vassar, 1,149; Goucher, 1,053; Mount Holyoke, 987; Radcliffe, 900; Randolph-Macon Woman's College, 845.

With an increased enrolment in general over last year the Massachusetts Institute of Technology continues to have the largest technical enrolment in the United States; its total of engineering students is 2,250

TABLE I (*Continued*)

Missouri	Nebraska	Northwestern	Ohio State	Pennsylvania	Pittsburgh	Princeton	Stanford	Syracuse	Texas	Tulane	University of Washington	Virginia	Washington University	Western Reserve	Wisconsin	Yale
1222	1152	1067	1679	1630	1519	2115	2912	961	1800	550	1175	1232	707	739	3868	1608
634	788	1422	692	159	470	...	500	886	1477	490	1408	17	771	696	2879	...
455	702	243	1562	148	518	140	304	294	1085	267	731	508	418	...	1079	689
144	169	292	307	426	242	...	255	201	302	74	209	267	192	283	292	367
76	297	476	329	577	246	...	184	175	254	426	...	247	304	245	255	212
277	279	419	749	177	984	214	235	149	156	97	335	141	241	17	730	634
268	496	...	764	...	...	...	...	60	...	...	...	7	...	...	724	...
...	...	...	...	345	...	...	...	*	...	...	...	*	120	...	...	102
127	450	...	...	32	...	...	17	821	...	170	785	169	148	*	...	114
192	695	376	1787	2418	688	...	29	973	233	146	1171	146	143	...	175	...
...	89	394	281	474	640	...	...	...	...	19	...	...	198	184	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	219
371	1445	136	1682	787	1745	...	76	96	100	*	172	93	...	152	...	*
...	...	...	...	...	...	...	...	...	...	...	144	12	...	...	...	44
297	157	79	...	*	...	...	28	*	...	...	66	...	...	...	110	...
...	*	267	...	33	...	...	...	...	...	39	*	153	...	...	154	100
...	109	...	193	...	349	...	...	...	54	40	148	...	...	118	104	...
...	106	250	128	359	13	...	...	692	79	166	1010	...	196	489	...	1022
113	695	...	75	...	...	...	1128	286	4	125	...	748	54	...	1428	104
3950	6239	5421	10035	7565	7414	2469	3412	5012	5536	2359	7354	2135	3384	2923	8942	5007
245	101	4499	148	7740	2794	...	...	1181	348	679	...	...	236	2419	...	450
1649	3401	1986	3080	2315	2432	142	1393	1445	3275	1037	3249	2771	920	1932	5165	120
442	888	600	1208	...	...	142	494	639	1451	...	...	601	286	...	1320	...
5402	8853	11300	12055	17620	12640	2469	4311	6999	7708	4075	10603	4305	4254	...	12787	5577
5412	6902	7795	8840	14534	7500	2180	3589	5646	6197	3687	6161	4186	3463	3817	10770	4076
3120	3501	4021	4722	6620	3056	972	1558	3401	3213	2397	...	2058	1222	2019	6200	2132
2143	377	...	...	...	1819	...	...	2990	449	...	1400	542	2731	...	5038	361
293	357	595	840	1375	805	251	493	579	429	403	315	171	407	502	566	629
37	28	8	8	60	19	27	50	42	26	22	25	19	22	23	39	45

and of chemistry students 108. Purdue is second numerically, with 2,193 students in engineering. With a slight gain over last year Illinois holds third place, with 1,695 engineering students and 218 in chemistry and chemical engineering. Ohio State now comes fourth, with 1,437 students in engineering and 125 in chemical engineering. Cincinnati is fifth with 1,400 engineering students.

Among law schools the five largest on this list are: New York University, 1,771; Harvard, 1,535; Fordham, 1,504; Columbia, 802; Michigan, 565.

The five largest medical schools in the United States are: Michigan, 666; Minnesota, 617; Pennsylvania, 577; Chicago, 523; Harvard, 522.

The November 1 registration of students under the graduate faculties of Columbia University is reported as 2,435—decidedly the largest in the country. Second place is held by the University of California with 1,489 graduate students. Chicago reports 1,421; Minnesota, 1,016, and Harvard, 893.

The agricultural enrolment of institutions on this list is about what it was last year—which was a decided drop from earlier years. Ohio State is highest with 764, or 20 more than Minnesota.

The policy of reducing numbers in the Wharton School of the University of Penn-

TABLE II

University	Regular Students Full-time	Rank	All Resident Students	Rank
California	17,311	1	25,534	2
Columbia	13,275	2	32,244	1
Illinois	12,033	3	13,394	7
Minnesota	11,307	4	16,751	6
New York U.	10,218	5	22,768	3
Ohio State	10,035	6	12,055	10
Michigan	9,700	7	11,700	11
Wisconsin	8,942	8	12,789	8
Harvard	8,030	9	10,874	14
Pennsylvania ...	7,565	10	17,620	5
Pittsburgh	7,414	11	12,640	10
U. of Wash.	7,354	12	10,603	15
Nebraska	6,239	13	8,853	18
Chicago	5,718	14	12,679	9
Texas	5,536	15	7,708	19
Northwestern ...	5,421	16	11,300	13
Cornell	5,355	17	7,408	22
Iowa	5,345	18	7,651	20
Fordham	5,243	19	5,559	..
Toronto	5,142	20	5,456	..
Syracuse	5,012	21	6,999	24
Yale	5,007	22	5,577	..
Oklahoma	4,738	23	6,088	..
Boston	4,351	24	11,403	12
C. C. of N. Y. ...	4,147	25	21,008	4
Cincinnati	3,541	..	9,688	16
U. of S. Calif. ..	3,842	..	9,162	17
Rutgers	3,668	..	7,035	23
Penn State	3,572	..	6,501	25
Western Reserve.	2,923	..	7,602	21

sylvania has brought the enrolment down from 2,579 to 2,360. This is still the largest commerce and finance registration in the country. The next four, in point of size, are: Illinois, 1,868; Ohio State, 1,787; University of Washington, 1,171; New York University, 1,075. Counting part-time as well as full-time students, the largest enrolment is that of the New York University School of Commerce, Accounts and Finance.

Among dental schools, Pittsburgh continues to have the largest enrolment with 640. Pennsylvania has 474; Northwestern is third with 394; Michigan is fourth with 374, and California fifth with 293.

With an increase of more than 400 over last year, Teachers College of Columbia University now has 4,610 students, of whom 3,156 are in education and 1,454 in practical arts. Second largest is the Teachers College of the University of California at Berkeley, which records 2,218 students, to which 534 additional university students in education are added. Pittsburgh reports 1,745 in education. Ohio State is fourth with 1,682 students in education and 105 working for degrees in both arts and education. Nebraska reports 1,445 and Minnesota 1,389 students in education.

The University of Washington has the largest number of forestry students, 144.

The largest school of journalism is the Pulitzer School of Columbia University, with 139 students. Among university schools of music that of Northwestern has the greatest enrolment, 267. The Columbia registration of 829 students is decidedly the largest pharmacy enrolment of the entire country.

The extent to which the urban universities are making collegiate work available for secondary school teachers and others who take late afternoon, evening or Saturday classes is shown in Table I under part-time enrolment.

The size order of summer schools for the 1927 session for the ten largest was as follows: Columbia, 13,857; California, 9,857; Chicago, 6,474; Minnesota, 5,444; Wisconsin, 5,165; University of Southern California, 4,369; College of the City of New York, 3,841; Michigan, 3,666; Nebraska, 3,401; Colorado, 3,360.

The following paragraphs explain statistics presented in Table I and give additional information:

The returns of the University of California cover the departments at Los Angeles as well as at Berkeley and vicinity. There are 6,011 students at Los Angeles, of whom 3,793 are in the College of Letters and Science and 2,218 in the Teachers College. The teaching staff at Los Angeles comprises approximately 200 persons. The chief increase in enrolment is in the departments at Berkeley and vicinity, where the gain is 132 over last year. The 324 students listed in Table I under other courses are distributed as follows: Training School for

Nurses, 145; agriculture non-degree, 167; dental hygienists, 12. The summer school figures include 2,070 intersession students at Berkeley, 5,049 summer session at Berkeley and 3,486 summer session at Los Angeles.

1927–28 full-time enrolment of the University of Chicago is a trifle larger than in 1926–27, small gains in the other departments offsetting a decrease of 208 students in commerce and finance. The 1927 summer session had 6,474 students as compared with 6,532 in 1926.

Increases throughout mark the departmental returns of the University of Cincinnati. The school of engineering, with its cooperative system founded by Dean Herman Schneider, now stands fifth numerically among engineering schools of the country; there are 1,400 students. The enrolment under other courses in Table I includes 276 in applied arts, 101 in nursing and health and 56 in household administration.

An advance of 5 per cent. in both full-time and grand total enrolment is revealed in the November 1 figures of Columbia University over the same date in 1926. The increase in full-time students is 662 and in grand-total enrolment 1,682. The net total of resident students at Columbia for 1927 is 32,244. Estimates for non-resident students are 1,000 for special non-credit courses, 2,000 for extra-mural courses with or without credit, and 7,500 taking extension home study. The "super-grand" total of all persons receiving some form of instruction from Columbia this year is approximately 42,000.

The Cornell totals are somewhat below those of a year ago. Under other courses in Table I are included 451 students in home economics and 107 in veterinary medicine.

Harvard's figures reveal small advances over those of last year. The 147 students listed under other courses in Table I are made up of 60 in landscape architecture, 49 special full-time students, 22 in the Bussey Institute and 16 in the School of Public Health.

At Illinois an increase of 223 full-time students is due to gains in the college and engineering enrolment, which offset decreases in commerce and other departments. There are 81 students in library science included in the total of 122 under other students in Table I. In addition to the teaching staff of 971 there are also 112 non-salaried clinical faculty members in the College of Medicine.

Small gains in all departments except dentistry total 18 more than last year for the Indiana enrolment of 4,082. The 173 students under other courses are in nurses training.

Iowa's enrolment is somewhat larger than in 1926–27. Courses in art, education and journalism, starred in Table I, are included in the liberal arts total. There are 298 students in nursing.

The Johns Hopkins University statistics are approximate, as the registration has not yet been officially compiled. The figures under other courses include 128 in the School of Hygiene and Public Health.

A very small decrease in registration at the University of Kansas is due to lower attendance of liberal arts students, both men and women. The 58 students listed under other courses in Table I are in the Nurses Training School of the School of Medicine. The Kansas summer session of 1927 was more largely attended than ever.

Slightly smaller attendance of dental and of education students at Michigan are offset by gains in other departments, so that the total of 9,700 is more than one hundred over 1926–27. There are 236 students in the nurses training school.

Minnesota's full-time advance over 1926–27 is 5 per cent. and the grand-total advance is 7 per cent. The engineering figures of 1,592 in Table I include 1,274

TABLE III

Institution	Students Full-time	Students All residents	Teaching Staff	Institution	Students Full-time	Students All residents	Teaching Staff
Agnes Scott	480	486	53	Fla. S. C. for W.	1,401	2,008	105
Albion	771	771	...	Fordham	5,243	5,559	175
Alfred	471	561	36	Franklin	281	450	26
Allegheny	572	622	38	Franklin and M.	627	629	38
Amherst	748	758	66	Georgetown U.	2,575	2,581	343
Baker	447	499	33	Gettysburg	596	836	45
Bates	614	843	35	Goucher	1,053	1,053	84
Beloit	529	536	43	Grinnell	739	739	58
Birmingh'm-South.	950	1,874	57	Hamilton	425	425	43
Boston U.	4,351	11,403	456	Hamline	384	393	33
Boston C.	1,230	1,938	51	Harvard	8,030	10,874	1,088
Brooklyn Poly.	418	555	40	Haverford	273	273	32
Bowdoin	554	554	44	Heidelberg	426	519	40
Brown	2,158	2,269	163	Hobart	460	460	37
Bryn Mawr	452	491	73	Howard C.	716	1,602	40
California I. of T.	588	604	106	Hunter	4,041	5,365	502
Carleton	811	823	71	Illinois College	373	387	29
Carnegie Tech.	2,400	6,497	286	Illinois Wesleyan	647	659	49
Carthage	245	350	22	Ill. Women's C.	322	602	38
Case	612	670	64	Indiana	4,082	5,959	298
Catholic U.	843	1,359	116	Ia. State A. & M.	4,047	5,691	360
Centre	322	322	19	Johns Hopkins	1,696	4,002	550
Clarkson	350	350	19	Kenyon	274	274	27
Clark	344	588	50	Knox	614	639	41
Claremont	821	1,120	82	Lafayette	1,065	1,090	92
Coe	741	1,098	65	Lake Erie	216	216	26
Colby	678	681	35	Lake Forest	365	365	22
Colgate	955	955	73	Lawrence	759	1,147	70
C. City of N. Y.	4,147	21,008	700	Lehigh	1,510	1,956	144
C. of New Rochelle	730	792	44	Macalester	455	463	35
C. of St. Elizabeth	302	302	38	Marietta	352	372	27
C. of St. Catherine	315	425	43	Mass. Ag. C.	602	927	100
C. of St. Theresa	317	590	31	Mass. Inst. Tech.	2,712	3,187	467
C. of Wooster	852	968	55	McGill	2,520	2,958	352
Columbia	13,275	32,244	2,075	Miami U.	1,655	2,411	120
Colorado C.	553	730	60	Middlebury	654	1,166	48
Converse	469	472	40	Mills	580	584	72
Conn. C. for W.	562	574	60	Milwaukee-Downer	402	418	47
Cornell C. (Ia.)	531	597	43	Monmouth	458	639	36
Cornell	5,355	7,408	936	Morningside C.	691	1,153	40
Dartmouth	2,281	2,281	200	Mount Holyoke	987	1,005	107
Davidson	625	625	38	Muhlenberg	470	830	32
Denison	865	1,015	61	New York U.	10,218	22,768	1,271
De Pauw	1,598	1,814	84	N. Y. State T. Coll.	1,061	1,748	67
Dickinson	569	573	30	North Central	501	568	41
Doane	231	235	21	Northwestern U.	5,421	11,300	702
Dominican	170	342	28	Oberlin	1,659	1,752	156
Drake	1,363	2,042	90	Occidental	624	638	65
Drury	441	457	31	Ohio State	10,035	12,055	840
Duke	1,555	2,581	104	Ohio U.	2,027	3,103	175
Earlham	449	460	40	Ohio Wesleyan	1,816	1,816	153
Elmira	596	596	50	Oregon S. Agr.	3,351	4,625	299
Emory U.	1,094	1,654	85	Otterbein	445	506	36
Eureka	221	250	...				

engineers, 230 chemistry students and 88 in mines. Forestry students at Minnesota are included in the agriculture enrolment. The liberal arts total takes in journalism and music students. The 540 students listed under other courses are students in nursing.

A few more full-time students and a few less in grand-total figures at the University of Missouri are disclosed in a comparison of 1927–28 and 1926–27 tabulations.

Advances in ten departments out of the fourteen listed account for the increase of 251 full-time students in the University of Nebraska's enrolment of 6,239. The 106 students listed under other courses are in nursing.

The Northwestern figures show an increase over last year of 515 full-time students and 1,075 in grand total enrolment. The 250 students listed under the courses are students of speech.

Except for agriculture and dentistry all departments at Ohio State report small increases. The term other courses in Table I takes in 94 students in veterinary medicine and 34 in applied optics.

The decision to reduce the size of the

TABLE III—(*Concluded*)

Institution	Students Full-time	Students All residents	Teaching Staff	Institution	Students Full-time	Students All residents	Teaching Staff
Park	503	508	35	U. of Mississippi	1,072	1,313	55
Penn. State	3,572	6,501	375	U. of Missouri	3,950	5,402	293
Princeton	2,255	2,284	251	U. of Montana	1,313	1,411	97
Purdue	3,523	3,864	276	U. of Nebraska	6,239	8,853	357
Radcliffe	900	1,050	150	U. of N. Hampshire	1,555	1,868	124
R'dolph-Macon M.	257	257	...	U. of Nevada	823	909	70
R'dolph-Macon W.	845	845	57	U. of N. Carolina	2,631	4,467	186
Redlands	506	548	41	U. of N. Dakota	1,573	1,926	126
Reed	324	324	30	U. of Notre Dame.	2,842	3,669	145
Rensselaer Poly. I.	1,414	1,414	114	U. of S. California	3,842	9,162	400
Rice Inst.	1,317	1,317	85	U. of Oklahoma	4,738	6,088	260
Richmond C.	499	677	...	U. of Oregon	3,022	4,160	283
Ripon	380	425	26	U. of Penna.	7,565	17,620	1,373
Rockford	396	586	47	U. of Pittsburgh	7,414	12,640	805
Rosary	256	501	35	U. of Rochester	901	3,442	105
Rose Poly.	263	263	21	U. of the South	325	360	35
Rutgers	3,668	4,790	229	U. of S. Carolina	1,499	2,020	89
Simmons	1,416	1,461	120	U. of S. Dakota	929	1,194	89
Simpson	636	745	36	U. of Tennessee	2,726	3,992	328
Smith	2,077	2,143	225	U. of Texas	5,536	7,708	429
Stanford	3,412	4,311	493	U. of Toronto	5,142	5,456	659
St. Lawrence U.	3,139	3,263	106	U. of Utah	2,768	3,496	179
State U. of Iowa	5,345	7,651	550	U. of Vermont	1,354	2,206	180
Stevens Inst. of T.	446	446	45	U. of Virginia	2,135	4,305	157
Swarthmore	559	559	70	U. of Washington	7,354	10,603	315
Sweetbrier	435	437	39	U. of Wisconsin	8,942	12,789	566
Syracuse	5,012	6,999	579	U. of Wyoming	982	1,945	95
Trinity (Conn.)	278	278	34	Vanderbilt	1,249	1,249	223
Trinity (D. C.)	367	378	50	Vassar	1,149	1,152	141
Tufts	2,110	2,110	341	Wabash	383	383	27
Tulane	2,359	4,075	403	Washburn	670	845	72
Union	811	833	75	Wash. & Jefferson	506	786	39
Utah Agr. C.	973	1,449	77	Washington & Lee	874	874	54
U. S. Mil. Acad.	1,259	1,259	...	Washington U.	3,384	4,254	407
U. of Akron	1,060	1,444	70	Wellesley	1,533	1,596	166
U. of Arizona	1,537	2,161	150	Wells	242	242	38
U. of Arkansas	1,420	2,082	140	Wesleyan	624	624	56
U. of Buffalo	1,241	3,161	302	West Virginia	2,504	2,522	...
U. of California	17,311	25,534	1,387	West. C. Women	372	372	35
U. of Chattanooga	367	451	24	Western Reserve	2,923	7,602	502
U. of Chicago	5,718	12,679	752	Westminster	499	523	28
U. of Cincinnati	3,801	9,678	492	Wheaton	497	497	41
U. of Colorado	2,917	5,277	198	Whitman	556	556	40
U. of Delaware	698	1,008	73	William & Mary	1,186	2,047	60
U. of Florida	2,010	3,279	150	William Jewell	514	634	19
U. of Idaho	1,778	2,294	150	Williams	815	815	71
U. of Illinois	12,033	13,394	971	Wilson	437	437	39
U. of Kansas	4,002	5,179	375	Winthrop	1,879	3,564	103
U. of Kentucky	2,339	3,302	214	Wittenberg	1,048	1,667	81
U. of Maine	1,303	1,601	181	Worcester Poly.	583	590	61
U. of Maryland	2,655	3,232	471	Yale	5,007	5,577	629
U. of Michigan	9,700	11,700	689				
U. of Minnesota	11,307	16,751	800	TOTALS	410,712	621,617	...

Wharton School of Finance and Commerce is shown in the University of Pennsylvania statistics, which report 2,418 as compared with 2,579 last year. This policy is to be continued with the Wharton School and also with the arts college enrolment. Under other courses in Table I are included 223 students in nurses training, 50 in oral hygiene, 13 in landscape architecture and 2 in hygiene. The grand-total enrolment is now 17,620.

Increases are reported this year at the University of Pittsburgh in all departments. In Table I the engineering total of 518 takes in 87 students in mines. Under other courses 13 full-time students in retail business training are included.

Princeton is continuing its policy of limitation of numbers, and now has slightly fewer students than a year ago.

Restricting the number of women college students to 500, Stanford University has permitted small additions in men in various departments, so that the full-time total is 109 larger than a year ago. The 1927 Stanford summer school had 1,393 students, or 199 more than in 1926.

A decrease of 136 full-time students at Syracuse is due chiefly to fewer students in business administration. The grand

total is 188 larger than in 1926–27. Under other courses in Table I are included 207 students in home economics, 113 in nursing, 110 in school of speech and 86 in library work.

A gain of 14 per cent. in full-time enrolment is recorded at the University of Texas as compared with last year, increases being noted in all departments except commerce and finance. The grand-total gain is 9 per cent. Under other courses in Table I are included 79 students in nursing.

In addition to 426 students in medicine at Tulane listed in Table I, there are 150 in the Graduate School of Medicine, primarily physicians taking short term review courses. Tulane's full-time enrolment is 178 larger than last year.

Virginia's enrolment is slightly larger than it was last year.

One of the largest increases reported is that of the University of Washington, Seattle, where the registration of 7,354 is 503 greater than last year. The figure 1,010 in Table I includes 857 students in the College of Science, 111 in the College of Fisheries and 42 in the School of Library Science.

The registration at Washington University, Saint Louis, is 30 larger than in 1927. There are 196 students in nursing listed under other courses in Table I.

The Western Reserve part-time figures of 2,419 include students enrolled in courses conducted jointly by the university and the Cleveland School of Education. The extension number of 2,207 means students taking night work in Cleveland College, which is the evening session of the university.

Wisconsin has 722 more full-time students than last year. The figures of 175 commerce students and 110 journalism students in Table I are for those in the last two years of the course.

Yale's registration represents every state and territory in the United States and 30 foreign countries. Under other courses in Table I are included 878 students in the freshman year, who have a separate organization and administrative officers; 95 students in the department of drama, and 49 in nursing. Among the 450 part-time students are 361 Connecticut school teachers. The teaching staff of 624 includes 195 part-time members.

The statistics in Table II afford opportunities for comparing attendance in colleges and universities of similar character.

Raymond Walters
Swarthmore College

WHAT IS EXPECTED OF THE MODERN TEACHER[1]

Not many years ago the function of the school was easily expressed, well understood and generally accepted, as being "to impart knowledge to all of its pupils." This knowledge was carefully divided according to the several grades—and a somewhat detailed syllabus was laid down giving the limits for the various years. The courses dealt almost entirely with what were termed the "fundamentals." All students were treated alike—without regard for their intellectual capacity—and a rigid and somewhat stereotyped written examination was the only means of separating the successes from the failures. The scholar was made to fit the school.

The school was regarded as a kind of "cloistered institution" through which all must pass before they could enter the outside world, with which the school had little connection.

The teacher's duty was very manifest. His was the task of seeing that all those committed to his charge "knew" the several subjects, the proof being revealed by the examination. He was supposed to maintain discipline and exact good behavior by exercising his superior authority, the underlying idea being largely that by virtue of the very evident consequences involved in a departure from such good behavior the pupil would grow up to be good not for its own sake but for fear of the penalties of being

[1] Presented at the Seattle Meeting of the National Council of Education.

anything else. The teacher's work began and ended with the classroom. He had nothing in common with the adult members of the general community, except that he had during certain hours the charge of their offspring.

What is the position to-day? The change is so startling that it may well be considered revolutionary. For instance, Dewey says, "All that society has accomplished for itself is put through the agency of the school at the disposal of its future members. All its better thoughts of itself, it hopes to realize through the new possibilities thus opened to its future self." Here the school is expected to assume the function of being the "safeguard of the progress of society."

Again—your own National Education Association has after a most thorough and searching investigation resolved that the fundamental objectives of the school should be—to bring about: 1. Sound health; 2. Worthy home membership; 3. Mastery of the tools and technic of learning; 4. Faithful citizenship; 5. Vocational effectiveness; 6. Wise use of leisure; 7. Ethical character.

These may well be taken as giving a very accurate summary of what is expected of our schools to-day. It should be noted that only in the mastery of the tools and technics of learning do we find common ground with the program of former days. It is also very evident that many of the previously accepted responsibilities of the home and of the church have now been transferred to the school. The introduction and development of organized industry has removed the opportunity for early observation and practice in the various vocations and this difficulty has now to be made good by the schools. Hence the school can no longer remain isolated from community life. It becomes, instead, the real vital center of such life, and definite connections must be made between school activities and those of the community. The teacher has an entirely new relationship. He must now accept tremendous responsibilities and must regard as his chief duty the development and the training of boys and girls, of future citizens and must regard the mere imparting of knowledge as of secondary importance. He must become a guide, philosopher and friend rather than a "superior person of authority." He must have vision. He must look beyond the immediate needs of his pupils, and must seek to give each one the fullest opportunity for realization of his or her best possibliities. He must realize that each of his scholars has a distinct personality which must not be destroyed, but must be allowed to develop under his guidance. He can not fulfill his mission by "class" instruction, but must know the capacity and study the needs of every individual pupil.

To meet this new conception of the schools, many radical changes have been made. Teaching has changed in character and has become much more scientific. The mental equipment of the pupils is now determined and they are graded with much greater accuracy than formerly. The intellectual achievement is also obtained by examinations of a much more reliable type than those of previous days. The old formal disciplinary theory has been abandoned and many of the mental gymnastics of the past have been relegated to the educational scrap heap.

The curriculum has been enlarged and enriched in content and the various subjects have been vitalized and motivated. Much useless material has been deleted and an attempt has been made to relate the various subjects to actual life and to the practices of the outside world. As was expressed recently in an editorial in the *Journal of Education*. "The old curriculum was made for adults—it was static and unchanging; it finished the child's education and called for a mastery of facts. The new curriculum is made for children; it continues to grow; it begins the child's education and calls for mastery of life."

New methods of teaching have followed. The "recitation," the "project" and such like developments have all arisen from the necessity of facing new conditions—conditions brought about by the development of industry and commerce and by our changing modes of life. The underlying aim has been to bring about the growth of the child, growth from the inside by stimulating the inborn desire to question, and to discover by actual experience. The pupils have been allowed to exercise their initiative and to experiment. The fundamental question is now not what they learn but how they learn.

Discipline is not now of the militaristic type—superimposed—and obeyed without question or understanding but is rather a self-imposed regulation and restraint—an obedience founded on a much higher plane. Such discipline prepares pupils to make important choices and decisions for themselves—and consequently develops a high degree of self-confidence which is of inestimable advantage in later life.

Many schools have indeed, self-government by the pupils—a most useful and practical preparation for the duties of citizenship which will come in later years. There are, of course, very many other revolutionary changes which have come into our educational systems but sufficient has been said, I think, to indicate the truth of the assertion that the schools of to-day bear little resemblance to those of former days. Just as our beautiful modern school buildings have superseded the "old red school house," so our present day concepts of education have supplanted the much more simple ideas and practices to which our colleagues of a few generations ago were committed. Recently while reflecting on modern educational advancement the thought struck me that there was a curious coincidence and analogy between the changes which have come about in the way we take our "mental" food and the way we take our material or "bodily" food.

In olden days (and even to-day in remote rural hotels) every diner was given just the same meal without any choice. It was very good, but it took no account of the different appetites and digestions. If it suited you and agreed with you all was well but if not you were likely to be considerably handicapped. Our old school courses followed this same system with its "dining" patrons.

As we advanced we came to a time when we were allowed to choose to a small extent; to have a little latitude. The waitress would inform us that we might have either "Beef or pork" and maybe "apple or raisin" pie. Here we find our mental analogy in the options allowed in our educational courses as we advanced.

Next we reached the stage when we were given a rather elaborate menu with many options, but with little indication in the title of what our choice would really be like when we got it. This reminds me of the story which you have probably heard of the American visitor who went to a very fashionable restaurant in Paris and was given an elaborate menu, printed of course in French, giving at the head also the titles of the musical selections played by the orchestra. When the waiter commenced to take the order, the tourist not wishing to display his ignorance of the language pointed to a certain line and said "I'll start with that," "I'm sorry, sir," replied the waiter, with a politeness typical of his countrymen, "but the orchestra has just finished playing it."

This state resembles the period when our school systems had a variety of options somewhat confusing to pupils and parents alike, with little guidance being supplied. Our next stage brings us to the cafeteria where we are given not titles of dishes but actual courses set out for us to see before we choose. This comes somewhat close to the idea of the Junior High, or Middle School and the Gary system, where the pupils have the opportunity of seeing just what the various courses are with the additional valuable point of being able to experiment and try out in certain subjects. The cafeteria has not yet reached the stage when they allow us to taste before we eat—but even this may come later.

And so we might go on with our condensed foods paralleled by our condensed note-book variety of education, with our quick lunch paralleled by our short courses (especially by some of our much advertised business schools where great increases of salary are guaranteed after a few lessons) and lastly with our dietitians in food being matched by our students' advisers who in many schools now help the students to choose wise combinations of mental foods to produce all round intellectual development.

Our training of teachers has necessarily undergone many changes in harmony with the advances made in educational theory and practice. We have greater academic preparation, a higher degree of scholarship, and a longer and more thorough period of training. Teachers of experience whose courses in normal training schools were taken many years ago have taken

advantage of the summer schools now attached to almost all institutions of higher learning and have kept themselves abreast of the times.

But there are some things of very great importance, which, in my opinion, still remain to be done before we can be satisfied that we have made all the adjustments necessary to meet the changed conceptions and conditions which have come upon us. I would like to point out a few of these. The community has given over to the schools very great and important additional duties and responsibilities as we have seen, and is in consequence demanding a tremendously increased contribution from the teachers. What is the community doing itself to meet the new situations it has created? Is it voting enough extra money to pay for what it has ordered? Is it prepared to give sufficient remuneration to provide for the much higher type of teacher it now requires. Such objectives as "worthy home membership, faithful citizenship, wise use of leisure, and ethical character, can not be attained through young, poorly-trained, inexperienced teachers. And yet, in many countries, we still send our youngest teachers without any practical experience into the rural communities, single-handed to teach these, as well as the other subjects of the curriculum. Probably the hardest proposition in the teaching field—the ungraded school—is handed over to those just entering the profession. Not only the teaching problem, but the social problem demands that we should send our best and most experienced teachers to assume leadership in such small centers. Where are the communities that will make this possible? Where are the authorities who will be bold and courageous enough to insist on its being done?

Again, in the matter of "faithful citizenship." What position is the community prepared to give the teacher as a citizen himself. In many places the exercise of some of the most common privileges of citizenship is denied to the teacher. We are all in absolute agreement—that while in the schoolroom and before his class, he should not take advantage of his position to impress any of his personal views or beliefs in religious, political, or contentious matters, upon his pupils, but this surely does not mean that as a citizen outside of his school he is to be considered as having no opinion at all on such questions. In Canada, we have a few teachers, at any rate, who have been elected to the legislatures and to the city councils, and they have undoubtedly become better teachers by reason of this extra experience, and by their intimate contact with the communities in which they live and work, and further, their election has given an increased status to the profession.

In another field the teacher's position needs classifying. As we have seen—modern education has resolved itself into a search for knowledge and truth largely by the pupils themselves under the guidance of the teacher. Now Truth is Truth, and a scientific inquiry after it can not be satisfied by any distortion designed to prevent the real facts from coming to light. Yet many of our propagandists would have our teaching so modified as not to conflict with what they would pretend to believe to be true but know to be partly if not wholly false. The day must come when our pupils will be encouraged to gather all information from all sides concerning any topic under discussion and by a careful weighing of the evidence, by acceptance of those which are proved and a rejection of those not based on fact will come to a well considered and logical conclusion. Probably one of the greatest weaknesses of modern democracy is its inability to make well-considered judgments based on scientific truth. People's thought can easily be stampeded, as all those who specialize in the moulding of public opinion so well know. Our schools can perform a great national service if they can remedy this situation, for one of its first effects would be to lift our political and civic life to a far higher plane, resulting in increasingly good government, and incidentally, it would rob many people of the privilege they now enjoy of making an easy living by trading on the gullibility of the public.

Perhaps, however, the most important issue coming out of our modern education advancement lies in the field of organization. Under the old system, organization was not difficult. Centralization was effective and efficient. Courses could be laid down in such great detail that the teachers' work became automatic and

machine-like. They simply taught according to regulations from a higher authority and little knowledge was required. I once heard of a superintendent who boasted that at any minute of the day, he could tell exactly just what lesson each of his teachers in each subject was taking. In those days, the majority of the teachers probably had such training that this method was not out of place, but from what we have already said teachers to-day have advanced remarkably in their academic and professional training and they are now called upon to perform many functions which can not be set down and prescribed by any well-defined regulations from any central authority. The whole spirit of teaching now depends upon the exercise of initiative, experiment and research by each individual teacher. We are prepared to admit that no two scholars are exactly alike and that they must be developed as individuals. In the same way no two teachers are alike and opportunities for individualism must prevail here also.

There must of necessity be central guidance and cooperation and coordination of individual effort, but it is clearly evident that rigid organization of the old type will make impossible the successful application of the new principles. To teach the same lessons year after year, in the same kind of way, under a routine system was probably bordering on drudgery but to have freedom to use all the skill at one's command in developing the mind and soul of a child—is a work of happiness and inspiration.

The task of the present is therefore to develop such a type of organization as will allow opportunities for every teacher to use the professional resources which, by training and practice, he has at his command and will make it possible for his successes to become a contribution to the general efficiency of the system by making his methods known to those not so skilful, while he in turn will be helped to overcome his difficulties by learning of those who have succeeded where he has failed.

This will lead us to a new conception of educational research. Early research was often made by experts, who, however, were not actually engaged in teaching themselves in the schools or departments which they were surveying. Now, excellent as they might be as educators—it should be obvious that the teacher constantly at work in the classroom ought to have some ideas of value, and further should be able to give an authoritative opinion upon the success or otherwise of the practical application of the expert's theory. Modern research recognizes this fact and the future will doubtless see many forms of what might be termed "cooperative research" where the whole staff of the school system is set to work under expert guidance upon the problems arising in the system. This, I know, has been done with great success in Seattle, and probably in other systems too. Such a method will solve several difficulties. In the past a studious and ambitious teacher had little scope for development in the classroom. He had to obtain promotion to an administrative position to secure both the freedom necessary and also the remuneration which he desired. Some day, we may recognize the wisdom of paying a really good teacher sufficient to retain his services as a teacher without forcing him to seek an administrative position, thus depriving ourselves and the classroom of that special gift which he has been shown to possess. There can be no doubt that this will have to be done if we are to prevent the best teachers from deserting the profession. There are not, and will not, be enough administrative positions to provide for all of our brilliant teachers and, unless they can find opportunity for initiative, development, freedom from exceptional personal restraint, and sufficient remuneration in the profession they will transfer their activities to other channels. As the wag has truly said, "Almost everybody of importance was a teacher, but nobody of importance is." It is time we made places in our profession sufficiently attractive to retain our most capable teachers.

Lastly, I believe that the teaching profession has made remarkable strides during the last few years and has now come to the point when it should establish itself alongside the other professions. It is easy to say and believe that teaching is the greatest of all professions but at such times we are clearly only thinking of certain aspects of teaching more or less of a missionary character. There is not any reason why we can not extend the application of the statement to the more practical and social

aspects. This can be done, but in my opinion only in one way. That way is by the development of a professional consciousness right along the line. When we realize that all who are engaged in education of any character, whether it be in the university, normal schools, administrative systems, high schools or common schools, are all serving under the same banner, and are engaged in a common crusade, and when we are prepared shoulder to shoulder to resist any attempts made to hinder the progress of the great work committed to our charge then, and not till then, will education assume its rightful place in our lands.

We must forget our internal rivalries and our personal jealousies, we must get rid of our intellectual snobbishness, and we must all fill with honor the place we have been called upon to occupy no matter whether it be high or low; when we do this the public will respect our position. Almost all nations can afford to spend more than they do for education and they will readily do so when we, as educators, can convince and assure our public that the returns are more than commensurate with the expenditures involved. Our educational associations can be the means of bringing about such a desirable consummation if we have the right vision and press on steadily towards the mark with every energy at our command.

HARRY CHARLESWORTH

VANCOUVER, B. C.

EDUCATIONAL EVENTS

MINORITY SCHOOLS IN POLISH SILESIA

ACCORDING to the Geneva correspondent of the London *Times*, the secretary-general of the League of Nations received on November 18 from the German government a telegram dealing with the German minority schools in Upper Silesia. The telegram has been communicated to the members of the council, and the necessary measures have been taken for the question to be included in the agenda of the December meeting of the council. The telegram, which is dated Berlin, November 14, says:

> On March 12, 1927, the Council of the League of Nations passed a resolution regarding the admission of children to the German minority schools in the Polish parts of Upper Silesia. The question then at issue was whether some 7,000 children, for whom applications for admission to the minority schools had been made, should be allowed to attend these schools forthwith or whether the Polish authorities were entitled to ascertain first whether the children actually belonged to the German minority. In consequence of the Polish authorities taking this step, a large number of the children were at the time deprived of school admission, and in face of this situation it was decided to have the children examined by a Swiss expert.
>
> We now learn from Upper Silesia that children whose names have been entered for the current school year (1927–28) are also being examined. It is reported that this step is taken in accordance with a decision of the Council *rapporteur* in virtue of Part 4 of the resolution then taken. Before the adoption of this resolution, the German representative on the council, who was then president, made a statement reproduced textually in the minutes. The German representative described the solution then proposed as nothing more than a way out of the difficulty which had recently arisen in connection with the minority schools in East Upper Silesia as a result of the action of the Polish authorities. He expressly stated, however, that the German government could not agree to the report on which the resolution was based if the examination of the children were also to apply in the future. Should the question again arise, the German government would, on the contrary, be obliged to press for a fundamental and final decision. In these circumstances, the German government is of opinion that the examinations now being carried out constitute a mistaken application of the resolution of March 12, 1927. To prevent such an application it requests you to take the necessary steps to ensure that it is made clear in the Council of the League of Nations that the resolution of March 12, 1927, provided for an exceptional measure which was not to be extended to the treatment of children who might later be admitted to the minority schools.

CONGRESS OF SECONDARY EDUCATION IN URUGUAY

AN invitation is extended through the Pan-American Union to public and private secondary school teachers and individuals interested in high-school work to attend the first Pan-American Congress of Secondary Education, organized by the Uruguayan Association of Secondary School Teachers. The congress will be held in the beautiful seaside resort of Piriápolis from

January 25 to 31, which is the middle of the summer season in that hemisphere.

The honorary committee includes the secretaries of public instruction and of foreign affairs, the president of the University of Uruguay and other high educational officials. The congress will be supported not only by government officials but also by some of the most distinguished educational leaders in the country, many of whom are members of the teachers' association.

The congress will consider the problems of secondary education in both cultural and vocational aspects, and will also discuss the best means of fostering Pan-American peace and friendship. The following questions are to be discussed:

(1) General objectives of secondary education.
(2) Character and citizenship training.
(3) What should be the objectives in teaching the history of the Americas?
(4) Vocational guidance in relation to secondary education.
(5) System of records and grades in secondary education.
(6) How can secondary education contribute to the development of mutual acquaintance and friendship and to the sense of solidarity and cooperation in all lines among the countries of the western hemisphere?

The Uruguayan embassy has sent a supply of descriptive pamphlets concerning the congress, which the division of education of the Pan-American Union will be glad to send to people who may be interested in this movement for closer intellectual cooperation among the Americas.

GIFTS TO THE LIBRARY OF CONGRESS

An Associated Press despatch reports that Mr. John D. Rockefeller, Jr., has given the Library of Congress $700,000, the larger part of which is to be used in the acquisition of source material for American history. The gift was made last May, but is announced for the first time in the annual report of Mr. Herbert Putnam, the librarian. Of the gift $450,000 is to be used for the historical research project, and $250,000 for the enlargement of the bibliographic apparatus of the library in the interest of its informational service to other libraries and to research investigators.

Other gifts reported by Mr. Putnam were those of Joseph Pennell and Archer M. Huntington, both of New York, totaling $400,000, and the private collections of John Boyd Thatcher, bequeathed by his widow, Mrs. Emma Treadwell Thatcher, of Albany, and the late Harry Houdini, the magician.

The report concluded that at the present rate of growth the 152 miles of book shelves in the library would care for its expansion only seven more years. The fifty-two miles of shelving which recently were added already are half filled, Mr. Putnam says, and there daily are being added 373 books, 80 maps, 41 musical compositions, 131 prints and more than 1,000 newspapers and magazines. Already the total has reached more than 6,000,000 items, not including the great collection of manuscripts.

The monetary gifts from private sources during the fiscal year ended last June brought the total thus received within the last two years to $2,000,000, in addition to the regular appropriations of congress, which approximate $1,500,000 yearly.

The Huntington gift of $100,000 provides an income for the purchase of books relating to Spanish, Portuguese and South American arts, crafts, literature and history published not more than ten years before their purchase.

The Thatcher collection, appraised at $355,000, covered five principal periods: Books printed during the first fifty years after the invention of printing, with specimens of over 500 different presses in 128 cities and towns of Europe. Early books relating to Christopher Columbus and other discoverers. Two collections of rare autographic documents, one of 1,365 pieces by sovereigns and other royalties from 1374 down; the other of 1,460 letters and documents by notable personages involved in the French revolution. About 1,600 volumes on the history of the French revolution.

The Houdini collection comprised 1,620 volumes and pamphlets and 134 volumes of periodicals on magic.

The collections of the library on June 30 included: 3,566,767 printed books, 1,014,633 sheet maps, 1,022,057 volumes and pieces of music, 462,800 prints, engravings and etchings.

THE HARVARD COOPERATIVE SOCIETY

THE Harvard Cooperative Society has now become the largest organization of its kind in the United States, according to the current issue of *The Alumni Bulletin*. Among college cooperative stores the Harvard Cooperative is not only the largest but the oldest. It was organized on a modest scale forty-five years ago, and had its first home in a student's room. But it soon outgrew its birthplace, and, after a brief interval in Holyoke House, migrated to the ground floor of Dane Hall, a building which fronted on Harvard Square until it was destroyed by fire. In Dane Hall the cooperative struggled along for twenty years, making slow and steady progress until 1903, when the college decided to use the building for other purposes. Thereupon, the society purchased the old brick building, known as Lyceum Hall, across the square, and moved to this new location.

With this shift the business began to grow at an accelerated pace and kept on growing until it became too big for the old premises. Accordingly, in 1925, Lyceum Hall was demolished and a new store, modern in all its appointments, was erected on the same site at a cost of more than $250,000. This new structure, extending from Harvard Square to Palmer Street, is one of the most attractive places of retail business in the entire Boston metropolitan district. Beyond Palmer Street, but connected with the main store by an underground tunnel, is a large warehouse and stock room of fireproof construction. In addition to its main store, the cooperative society operates a branch store on Massachusetts Avenue, known as the "Tech Branch," near the Harvard Bridge, directly opposite the Institute of Technology and patronized largely by students of that institution. A second branch store was opened last autumn at the Harvard Graduate School of Business Administration.

The total business of the cooperative society last year amounted to $1,184,309.27. The net earnings were $129,276, of which $44,506 was set aside as a reserve, and $84,770 made available for payment to members in dividends or for addition to surplus. Of this amount, $78,000 was actually paid out in dividends in October, 1927. The total membership for 1926–27 was 8,613, of whom 1,164 were alumni members. Dividends for the year were at the rate of ten per cent. on all cash purchases, and eight per cent. on all credit purchases, made by members.

The business is now divided among eight departments. Of these the book department is the largest in point of annual sales. It is probably one of the largest single retailers of textbooks in the country, for its sales over the counter exceed a quarter of a million volumes per annum.

Any officer or student of the university and any graduate can become a member of the cooperative society on payment of one dollar. Whenever a cash purchase is made, either in person or by mail-order, the member's number is recorded, and at the end of the year a dividend is paid to him on all purchases made during the period. This dividend is payable in October. For several years it has been at the rate of ten per cent. on all cash purchases and eight per cent. on the yearly total of charge accounts. The dividend applies to sales in all departments —books, stationery, custom and ready-to-wear clothing, shoes, furniture and room furnishings, sporting goods, tobacco and smokers' supplies, hardware and men's furnishings.

THE YALE UNIVERSITY ENDOWMENT FUND

THE Yale University Endowment Fund Campaign for $20,000,000 stands at $18,796,672, which includes $2,600,000 in conditional donations, which will become outright gifts if the balance of $1,200,000 necessary to complete the fund is secured by January 1.

That Yale is not alone in believing that her $20,000,000 fund is an urgent need deserving of support has been shown by gifts sent in from other colleges. A donation to the endowment fund from the student body of Middlebury College in honor of their president, Paul D. Moody, Yale '01, has been received. Among the Harvard contributors is LeBaron Russell Briggs, for many years dean of Harvard College and president of Radcliffe. Harvard is also represented with a collective subscription of $1,000 from a group of Harvard publishers. Princeton and Colgate are also represented, through subscriptions from their graduates.

The 19,016 students and alumni who have subscribed represent 54 per cent. of the entire

body of living Yale men, and over 9,000 more subscribers than have ever before given to Yale in any one year. The student campaign conducted last May brought in 3,896 gifts—a record of 83 per cent. of the total number of students. Out of the 17,275 living graduates, subscriptions have been received from 10,583—or 61 per cent. Non-graduate alumni and alumni of the professional schools have a record of 28 per cent., with 3,869 subscribers out of 13,562 members.

Metropolitan New York has subscribed a little more than half the fund; its total stands at $10,600,278. Chicago has pledged $1,345,445; the New Haven district, $693,910; Philadelphia, $663,838, and the Hartford district, $580,691. Yale men in foreign countries have subscribed $27,382. These pledges have come in from Central America, Mexico, Brazil, Chile, England, France, Netherlands, Belgium, Switzerland, Greece, Turkey, India, Japan, China, Dutch East Indies, Pretoria, Australia and Cape Town.

The text of a letter sent by President James Rowland Angell to Otto T. Bannard, of New York City, chairman of the endowment fund, is as follows:

As the endowment campaign enters the last month prior to the expiration of the time limits set by the makers of conditional gifts, it seems to me that you may be interested to know something of the effects of the campaign up to this time within the university.

The buoyant and optimistic atmosphere with which the university began its work this autumn has been everywhere marked. This circumstance no doubt arises from several sources—in part, for example, from the notable improvement in the quality of the students entering the various schools under our policy of restricted attendance. But it is largely and unquestionably attributable to the feeling of our staff that the degree of success already attained by the Endowment Fund Campaign is an earnest of the unqualified support by our alumni and friends of the Yale program of intensive development—a development which looks to the addition of highly qualified men needed for our teaching in under-manned departments, to the advancement of the salaries of deserving and underpaid members of the faculty, to the promotion of the best methods of teaching and the most significant forms of creative scholarship, and, finally, to the safeguarding of the development of Yale's great collection of books.

Already we have felt justified in making a number of urgently necessary salary advances with effects on the morale of the faculty which have been extremely reassuring. We have made arrangements for adding to the staff a few imperatively needed men. With the completion of the endowment fund, we hope to be in a position to go much further in these directions, carrying out our original and highly conservative plan. We also hope to be able to push forward with some rapidity the development of honors work in those departments where such work is most effective. The development of the library program must, of necessity, be somewhat slow, and part of it must await the completion of the Sterling Memorial Library building, now in process of erection.

In general, I am sure it would be difficult to exaggerate the encouragement which we all feel over the progress thus far made with the fund, and we are naturally most solicitous that nothing should prevent its successful completion by December 31, 1927, thus insuring the large contingent gifts which constitute so important a part of the entire undertaking.

THE INTERNATIONAL INSTITUTE OF TEACHERS COLLEGE

According to the annual report of Dr. Paul Monroe, director of the institute, during the year 308 students from foreign lands were enrolled as compared with 283 of the previous year, together with 14 students in the intra-session courses in August–September, 1926, 35 in the intra-session courses of June, 1927, and many more during the regular summer session, when no separate register is kept. These students came from 51 different countries as compared with 50 countries of origin during the previous year. These together with 158 American students planning to teach in foreign lands were advised in their work by the staff of the International Institute.

Instruction in the field directly connected with the work of the institute is offered in 15 different courses in which the class registration totaled 542. While all these courses aim to connect their work directly with school conditions, this connection is made most directly with the fundamental course through the extensive field visitation. As in previous years, an extensive visitation was made in Maryland, Virginia and the District of Columbia, a trip to the New England States, and numerous more

local visitations in the vicinity of New York City. By these observations on the field, instruction in every type of American educational institution and the workings of country, city, county, state and national administrative offices are seen in actual operation. This phase of the work continues to be the most profitable, most popular and most unique.

During the academic year inclusive of the summer session, sixty-eight scholarships were granted covering tuition charges amounting to $13,745. The awards were granted to students from the following countries: Australia, 1; Bulgaria, 2; China, 17; Czecho-Slovakia, 1; Chile, 3; Denmark, 1; England, 4; Finland, 1; France, 1; Germany, 3; Greece, 1; Haiti, 1; Hungary, 4; India, 3; Iraq, 1; Japan, 2; Korea, 2; Palestine, 1; Persia, 1; Philippines, 1; Poland, 3; Porto Rico, 5; Russia, 2; Scotland, 1; Spain, 2; Turkey, 4.

Grants from the Macy Fund, totaling $26,300, were made to 28 students. As in previous years most of the appointments to the Macy grants were made on nomination of the educational ministries of the respective countries and the remaining few upon nomination of some outstanding educational organization, representative of the educational interests of the respective countries. Visits were made by various members of the staff to the educational ministries of several countries with reference to these appointments or to the work of previous holders of the grant.

THE DEPARTMENT OF SUPERINTENDENCE AT BOSTON

PRESIDENT JOSEPH M. GWINN, president of the Department of Superintendence of the National Education Association and superintendent of the San Francisco public schools, has appointed the members of two important special committees which will report at the convention meeting at Boston from February 25 to March 1, of the department the last week in February.

As reported in SCHOOL AND SOCIETY last week the resolutions committee, charged with the responsibility of stating the educational policies of America's school administrators, is composed of Superintendent A. L. Threlkeld, Denver, chairman; State Commissioner of Education A. B. Meredith, Hartford, Connecticut; Superintendent J. R. Barton, Oklahoma City, Oklahoma; Deputy Superintendent Charles L. Spain, Detroit, Michigan; Assistant Superintendent Estaline Wilson, Toledo, Ohio; Dean John W. Withers, New York University, New York City, and County Superintendent Ada York, San Diego, California.

The Dallas convention authorized a committee to draft a statement on the relationships which should exist between boards of education and superintendents of schools. Members of that committee are: Superintendent E. C. Hartwell, Buffalo, New York, chairman; Superintendent Zenos E. Scott, Springfield, Massachusetts; Superintendent Paul C. Stetson, Dayton, Ohio; Superintendent Frank Cody, Detroit, Michigan; and Superintendent J. W. Studebaker, Des Moines, Iowa.

The program for Monday afternoon at 2 o'clock has been designated by President Gwinn for the discussion groups. Topics for those groups and their chairmen have been listed as follows:

The Program of Education for the Adolescent Youth, Leonard V. Koos, professor of secondary education, University of Minnesota.

Variations found in Secondary School Curricula, John J. Maddox, superintendent of schools, St. Louis.

Differentiating and Expanding the Secondary School Curricula, Thomas R. Cole, superintendent of schools, Seattle.

Counseling and Guidance for Adolescent Boys and Girls, George N. Child, superintendent of schools, Salt Lake City.

Curriculum Problems of the Small High School, A. T. Allen, state superintendent of public instruction, Raleigh.

The Senior High School Teacher, E. B. Cauthorn, assistant superintendent of schools, Dallas.

The Junior College, R. J. Leonard, professor of education, Teachers College, Columbia University.

The School and Social Agencies, Nicholas Bauer, superintendent of schools, New Orleans.

Adapting Elementary Schools to Individual Differences of Pupils, R. G. Jones, superintendent of schools, Cleveland.

Group and Creative Activities in Education, Charles S. Meek, superintendent of schools, Toledo.

Better Understanding of Creative Activities:

from both Administrative and Classroom Procedure, Lucy Gage, chairman, National Council of Primary Education, George Peabody College, Nashville.

Music Education, P. W. Dykema, professor of music education, Teachers College, Columbia University.

Health and Physical Education, D. J. Kelly, superintendent of schools, Binghamton.

On Tuesday afternoon Dr. Gwinn plans to have ten conferences of school administrative officers. Five of these programs have been arranged with chairmen designated as follows: Superintendents of cities with population over 250,000, David Weglein, superintendent of schools, Baltimore, Maryland; Superintendents of cities, 100,000 to 250,000, Carroll R. Reed, superintendent of schools, Bridgeport, Connecticut; Superintendents of cities, 10,000 to 100,000, S. E. Webber, superintendent of schools, Charleston, West Virginia; Superintendents of cities under 10,000, Philip J. Kimball, Principal, Washington State Normal School, Machias, Maine.

It has been the custom in past years to hold one great vesper service on the Sunday afternoon of the opening of the convention. This year Dr. Gwinn has varied from the custom and plans to have six vesper services at various historical places in the city. The vesper services are being arranged by Payson Smith, commissioner of education for Massachusetts. According to tentative plans these services will be held at 4 p. m., Sunday, February 26, at Faneuil Hall, Park Street Church, King's Chapel, St. Paul's Cathedral, Old North Church and Arlington Street Church. It is planned to have two speakers at each service, the first a Boston clergyman to conduct the devotional exercises, and a prominent college president to deliver the address.

EDUCATIONAL NOTES AND NEWS

DR. ALFRED FRANKLIN HUGHES was installed as president of Hamline University, St. Paul, Minnesota, on December 13.

THE VERY REVEREND ROBERT M. KELLY has taken up his work as president of Loyola University, Chicago. He was welcomed by the faculty at a banquet on December 5.

PRESIDENT EDWARD M. LEWIS, of the University of New Hampshire, was officially welcomed by the student body, when the entire group of fifteen hundred marched to his home, under the leadership of the president of the Student Council, and escorted him to Bonfire Hill. A huge bonfire, built by the freshman class, was lighted, and the president was then cheered. The gathering dispersed after singing "Alma Mater."

DR. EARL ENYEART HARPER will be formally inaugurated as president of Evansville College, Indiana, on February 17. The inauguration will be the leading event of a two-day educational program.

DR. A. THOMAS SMITH, president of Pennsylvania State Teachers College of West Chester, has resigned on account of ill health.

DR. J. D. M. FORD, Smith professor of the French and Spanish languages at Harvard University, has been promoted from Chevalier to Officer of the Légion d'Honneur.

AT a meeting of the senate of the University of Dublin on November 11 Lord Iveagh was elected chancellor of the university in succession to his father. The other names sent up by the board of Trinity College were those of Lord Granard and Lord Glenavy, vice-chancellor of the university.

DR. FERDINAND BURSSON, professor of history at the University of Munich, shares the Nobel peace prize with Dr. Ludwig Quidde, who was from 1896 to 1902 professor of philosophy in the Sorbonne, Paris. The value of the prize is about $40,000.

THE King of Italy has conferred upon Sir Herbert Warren, the president of Magdalen College, Oxford, the decoration of Commendatore della Corona d'Italia, in recognition of his services in encouraging the study of Italian literature and classics in the University of Oxford. A similar honor has been conferred upon Professor Foligno, director of Italian studies in the university.

THE honorary degree of doctor of laws will be conferred on Mr. H. J. W. Hetherington, vice-chancellor of Liverpool University, at a special congregation at Glasgow University.

THE annual convention of the Minnesota Educational Association was held in Minneapolis on November 10, 11 and 12, under the presidency of C. H. Barnes, superintendent of the St. Louis County Schools. Francis G. Blair and Miss Mary McSkimmon were among the speakers. Dr. Leonard V. Koos, professor of secondary education at the University of Minnesota, was elected president of the association.

THE Pennsylvania State Teachers Association will hold its annual meeting at Lancaster on December 28 and 29, under the presidency of George D. Robb, of Altoona. The speakers at the opening session will be Charles Lose, formerly principal of the State Teachers College at Lock Haven; Dr. Ralph Dorn Hetzel, president of Pennsylvania State College, and Charles Lathrop Pack, of the American Tree Association, Washington, D. C.

THE fifty-ninth annual meeting of the American Philological Association will be held at the University of Cincinnati on December 28, 29 and 30, in conjunction with the Archeological Institute of America, the College Art Association of America, the Linguistic Society of America and the National Association of Teachers of Speech. The president's address, to be delivered by Professor Frank Cole Babbitt, of Trinity, will be on "The Epic of America."

JOHN A. SEXSON, superintendent of schools at Bisbee, Arizona, has been elected to the superintendency of Pasadena, California.

CARL A. JESSEN, of Montana, has been appointed specialist in secondary education in the U. S. Bureau of Education. This is a new position, which concerns itself with all questions relating to the administration and conduct of secondary schools. Mr. Jessen has been state inspector of high schools for the Montana State Education Department for the past few years. Mr. William H. Gaumnitz, of the North Dakota State Normal School, has been appointed associate specialist in rural secondary education, to fill the vacancy created by the resignation of Eustace E. Windes, who is now on the faculty of the department of education of the University of Virginia.

ARCHIE M. PALMER has been appointed assistant director of the Institute of International Education, New York City, of which Dr. Stephen P. Duggan is director. Mr. Palmer will have direct charge of several international fellowship exchanges administered by the institute and will be director of the students' bureau. He will make frequent visits to our colleges and universities to become familiar with the conditions so that he may advise foreign students wisely. Mr. Palmer for the past three years has been executive secretary of the Alumni Federation of Columbia University and managing editor of the *Columbia Alumni News*. Previously he had been for three years secretary of the College of Liberal Arts and Sciences at Cornell University.

RALPH A. BURNS, who was for the year 1924 to 1925 principal of the American School Foundation in Mexico City, has been appointed instructor in education and psychology at Carleton College, Northfield, Minn.

MISS ZULU Z. BALLEW has been appointed dean of women at the State Normal School at Silver City, New Mexico.

MISS GERTRUDE BRADT, recently dean of women in the State Teachers College at Mansfield, Pa., has accepted appointment as dean of women at the State Normal School, Fitchburg, Mass.

R. E. ALBRIGHT has resigned as dean of Billings Polytechnic Institute, after serving one year, to continue his studies at Oberlin College.

LOUIS A. RICE, of Cranford, N. J., has been appointed as an assistant in the division of secondary education of the state education department.

PROFESSOR GEORGE D. STRAYER, of Teachers College, Columbia University, has agreed to direct the complete survey of all public education in the state of Florida. He will spend a considerable part of his time, especially during the second semester, in directing the field work in Florida. Professor N. L. Engelhardt, Professor Carter Alexander and Professor Paul Mort will have responsibility for special phases of the work. The survey of higher educational institutions will be undertaken by Director R. J. Leonard, and Professors William C. Bagley and E. S. Evenden.

CHARLES ERNEST FAY, since 1871 professor of modern languages and for many years dean of the graduate school, at Tufts College, has resigned after serving for nearly sixty years.

AT a recent meeting of the Board of Trustees of Barnard College, Dr. John G. Milburn was reelected chairman. Miss Mabel Choate was reelected vice-chairman and George A. Plimpton was again chosen treasurer. Lucius H. Beers was elected clerk of the board, and Howard Townsend and Mrs. Ogden Mills Reid were named members of the executive committee.

DONALD B. PERRY, formerly of Hallowell, now associated with the American Telephone & Telegraph Company, in New York City, has been appointed a trustee of the International College of Smyrna, Turkey. Dr. Cass A. Reed, president of the college, is visiting the United States.

WILBUR L. CROSS, dean of the Yale University Graduate School, was recently elected a director of the American Academy of Arts and Letters.

DR. HUGH P. BAKER, formerly dean of the college of forestry at Syracuse University, will head a new department of the United States Chamber of Commerce to work with trade organizations.

SIR JOSEPH THOMSON, master of Trinity College, recently opened the new science laboratories of the Lays School, Cambridge. A number of other distinguished scientic men attended the ceremonies.

PROFESSOR GEORGE KARTZKE, of the University of Berlin, has been appointed as secretary-general of the Berlin Summer School of New York University. The Berlin Summer School was instituted last summer, when Professor W. D. Zinnecker, professor of German at New York University, served as secretary-general.

JAMES H. WOODS, professor of philosophy at Harvard, is Harvard exchange professor at the Sorbonne, France. He made an address at the celebration of the centenary of the birth of Marcellin Berthelot and also spoke at the fiftieth anniversary of the faculty of Protestant theology at Paris.

DR. E. J. FISHER, professor of modern European history in Robert College and dean of the college, gave an address at Cornell University on December 9 on "Turkey in Transition." Dean Fisher is now giving a course of lectures in the school of citizenship and public affairs at Syracuse University and will lecture at Stanford University during the winter.

DR. RALPH BEATLEY, assistant professor of education and tutor in the division of mathematics at Harvard University, has been appointed a Harvard exchange professor to the western colleges for the second half of the current academic year. He will visit Knox, Beloit and Colorado Colleges.

DR. HENRY M. WRISTON, president of Lawrence College, gave the address at the commencement exercises for the fall quarter of the University of Minnesota in Minneapolis on December 10.

DR. CHARLES ROBINSON, president of the College of the City of New York, was the principal speaker at the Founder's Day exercises of the Drexel Institute, Philadelphia, on December 15.

PRESIDENT W. L. BRYAN, of Indiana University, has completed a speaking tour on the Pacific Coast, which included the University of Idaho, the State College of Washington, the Washington State Education Association at Wenatchee, and the Washington State Education Association at Longview. Dr. Bryan also attended Indiana University alumni meetings at Spokane, Seattle, Tacoma and Cheney.

IT is planned to place a portrait of President William R. Harper and of former Vice-president James H. Tufts, in the Harper Memorial Library of the University of Chicago and a bronze bas-relief portrait of President Harper for Swift Hall. By a recently established policy of the Board of Trustees a work of art intended for permanent placement in university buildings must be approved both as to the choice of the artist and the character of the work itself.

ALEXANDER HAMILTON, for fifty-one years instructor in the Baltimore public schools, has died at the age of eighty-seven years.

THE death is announced of John J. Schobinger, who had completed last spring fifty years' principalship of the Harvard School for Boys in Chicago. A correspondent writes: "His influ-

ence extended through the lives of the many boys he prepared for the Eastern colleges as well as for some in the Middle West."

JUSTICE ROBERT J. WILKIN, dean of the Children's Court, Brooklyn, where he had presided for twenty-four years, died on December 3, at the age of sixty-nine years. In a letter to Justice Wilkin written in 1913 Mayor Gaynor, after referring to the many articles praising Judge Ben B. Lindsey's work among the children of Denver: "But he began only in the year 1900, whereas you began similar work in the care of children as early as 1877 and procured the passage of the first law, namely in 1884, for the protection and probation of children brought into court. Later you drafted and had passed the juvenile delinquency law. In fact, the whole system of treating children separately in court and protecting them as children should be protected grew up under you."

THE fifteenth anniversary of Rutherford College, Asheville, North Carolina, will be observed next June.

THE college of the Pacific at Stockton, California, and Willamette University, at Salem, Oregon, has been placed upon the approved list of institutions by the Association of American Universities.

IT is planned to erect at Northwestern University a union building at a cost of $750,000, to serve as a center for men students' activities, which will carry provisions for a field house. The university has also obtained an option on fourteen acres of land valued at $2,000,000 to enlarge the downtown campus on Lake Shore Drive. It is expected that this land will be largely used for the erection of hospitals.

C. C. DULA, president of the Liggett and Myers Tobacco Company, has made a gift of $200,000 to the endowment fund of Duke University.

ACCORDING to the report of the New Mexico State Land Commissioners, more than $1,000,000 has been distributed to the schools this year in leasing fees on cattle grazing land and on oil and gas royalties. While the common schools and state educational institutions come under this provision, the largest part of the oil royalties go to the state university, fortunate in owning sections in oil fields.

THE graduate school of the University of Washington has an enrollment of 385 students for the fall quarter, which is an increase of 82 over last year, according to Professor Frederick M. Padelford, dean of the graduate school. Most departments in the university are represented. English leads the list with 79, of which 49 are women. Education is next with 30 men and 17 women. Economics follows with 28 men and three women. History and chemistry are next in order. Home economics has an enrolment of 17, which is a marked increase over previous years.

COURSES of collegiate grade leading to the bachelor of science degree in agriculture, education and home economics have recently been organized at Tuskegee Institute, Alabama. They are designed for the training of teachers. Other courses of collegiate grade are a three-year course in nurse training; a two-year course in agriculture, for the training of farmers and demonstration agents; home economics, for teachers and home makers; education, for elementary-school teachers; business, to prepare for business positions, and courses in the trades, for manual-training teachers. For several years college courses have been offered at Tuskegee, but, except in the department of agriculture, they were not organized as degree courses. Entrance requirements are the same for all courses, graduation from a standard four-year high school, with fifteen units of work.

The School Board Journal reports that State Commissioner Elliott, of New Jersey, has ordered the reinstatement of Mr. Edward A. Nelson as secretary of the Bayonne school board and payment of his salary from May 19, when he was dismissed, at the rate of $5,000 a year. Mr. Nelson had been named secretary in May, 1926, but a new board which went into office in February, 1927, removed him and gave the place to J. A. Skelenar. Dr. Elliott held that Mr. Nelson's appointment had been ratified by failure to remove him until more than three months after the new officers took charge of the school affairs.

THE following opinion in regard to the em-

ployment of married teachers, given by the attorney-general of California, is quoted in the *Journal of Education:* "Causes for dismissal as outlined in the political code cover immoral or unprofessional conduct, incompetency, evident unfitness for teaching, persistent violation of or refusal to obey school laws of California or reasonable rules prescribed for the government of the schools. Marriage is not immoral, nor incompetency, or persistent violation or refusal, and to violate the code the only remaining grounds would be refusal to obey the 'reasonable rules.' I can not conceive that the fact that the teacher, male or female, who gets married can be considered as violating any reasonable rule prescribed for the government of public schools nor as a matter of fact do I consider that that subject is in any way within the purview of any reasonable rule relating to the government of the schools. It is quite probable that any such rule or regulation would be held to be contrary to public policy."

Examinations of school children by the Division of Medical Inspection of the Philadelphia Public School System are being made in cooperation with the Phipps Institute in an effort to discover predisposition to tuberculosis in school children. Dr. H. R. M. Landis and Dr. Eugene Opie, professor of pathology at the University of Pennsylvania, are working in conjunction with the school medical inspectors under the direction of Dr. Wilmer Krusen, director of the Department of Public Health. Two tests are made of each child, one an X-ray test and the other an injection test, to discover probable reaction to tubercular bacilli. If the results of the test in an individual pupil justify care in his treatment, the child is placed in a special open-air classroom and is allowed two hours of rest daily, one in the middle of the forenoon and the other in the afternoon.

We are informed by the secretary of Princeton University that the note printed in School and Society on the authority of a report from Buenos Aires to the effect that a party of Princeton students would visit Argentina as part of a reciprocal exchange of students between North and South America is incorrect.

It is planned to erect at Johannesburg a college equipped for the higher education of the Indian youth of the Transvaal. It has been felt in certain quarters for some time past that the educational facilities open to the Indian community were insufficient, and at a recent meeting of the British Indian Association the matter was discussed in all its bearings. A special committee to deal with the details necessary to the building of such an institution was appointed. The cost will be in the neighborhood of £10,000.

SPECIAL CORRESPONDENCE

NEW SALARY SCALES AT OBERLIN COLLEGE

By action of the board of trustees of Oberlin College, at their annual meeting on December 7, a new ideal scale and a new immediate scale of salaries for full-time teachers were adopted for the college.

The ideal scale provides ten salary stages, the lowest $2,000, the next $2,500 and so on up to and including the ninth, which is $6,000. The tenth stage is specified simply as "$6,500 or above." It is expected that after this scale is fully in operation the teaching staff will be distributed about evenly in respect to salary over the ten stages.

On this scale there will be no automatic advances in salary, but those on the two lowest levels will be considered for advance every two years and those on the other levels (except the highest) every three years.

The first two levels will carry the title of instructor; the third level, $3,000, may carry either that title or assistant professor; the fourth level, $3,500, carries the title of assistant professor; the fifth level, $4,000, may carry either that title or associate professor; the next level, $4,500, carries the title associate professor; the next level, $5,000, may carry either that title or professor; the high levels carry, of course, the title of professor.

The single basis for advance in salary will be increase in value to the college. Three types of such increase in value are recognized: the first and most important is increase in value as teacher; the second is increase in value as helper in administration—this term is meant to apply both to administrative work done in departments and to work done in faculty committees and

other all-college enterprises; the third type is increase in public value—this includes (a) increase in value as discoverer—that is, in productive research; (b) increase in value as disseminator—that is, as an interpretator of research through semi-public writing, through text-books, through editing, through lectures and through addresses of other types; (c) increase in value as creative artist in any field of art, and (d) increase in value in certain other special respects, as, for instance, service in national organizations.

Public service such as has just been suggested will be approved only when it is engaged in to an extent which does not prevent increase in value as teacher. It will be assumed that the college has the right to expect that the entire working energy of a teacher receiving an adequate salary will be spent in service which is directly or indirectly of value to the college. Length of service will not in itself be a basis for advance, though it is fully recognized that length of service should and often does produce enrichment in teaching ability. Special cases of financial need should be met by special provision other than advance in salary.

The new immediate scale, which will go into effect next September, has a minimum salary of $1,800 and a maximum of $6,000, as against a present minimum of $1,500 and a maximum of $4,500. The transition from the new immediate scale to the ideal scale will be made gradually through a period of six years.

ERNEST H. WILKINS

DISCUSSION

COLLEGE SPIRIT

ALL American colleges are now experiencing their annual revival of college spirit. What is this thing that mounts to such fever heat the first ten weeks or so of each college year and then gradually cools off as the football season vanishes into history? Why should a thing of such vast importance in the minds of the undergraduates, and who knows in what other minds, last so short a time? Why should we lose such a great good so quickly and have to wait till another football season comes around to recover it again? The obvious reason, of course, is that such an intense emotional state could not last long, for those experiencing it would be consumed by its fire. A holy roller or an old-fashioned methodist revival soon exhausts those concerned, and they must have a period for recuperation.

And this prompts to a consideration of the nature of this thing which engulfs higher education periodically and turns something like half a million of the intellectual pick of our youth into what frequently resembles a howling mob. At this period of the year college spirit is likely to mean faithful attendance at bonfires and pep meetings, attending all football games in which the home team is engaged, sitting in the rooting section during the game, and showing perfect discipline by responding properly to the directions of the cheerleaders, attending send-offs to the team, following the team on its out-of-town trips, on all these occasions yelling oneself speechless. As a general thing little fault can be found with these things so far as they go. The fault is that so many think that this is all there is to college spirit. However, college spirit does not always stop here. Sometimes an athletic victory will cause a great welling up of college spirit, resulting in the destruction of property of the enemy college. Or sometimes students from one college will slip out under cover of darkness and mutilate the property of the opposing college. And sometimes college spirit builds up such amicable relations with the favorite rival that the animosity extends to the members of the faculties of the two colleges, so that the faculty of the one always thinks in deprecatory terms of the faculty of the other.

A little earlier in the season or near the end of the year class spirit, which I believe is usually considered very efficacious in building up the proper college spirit, leads the participants to engage in all manner of cave-man antics, often resulting in the serious injury or even death of some of the actors. Often these contests, too, result in the destruction of the property of the alma mater or of the business men of the town.

Lest I should seem to be too severe on the college student, let me remind the reader of the fact that college professors often speak as if college spirit had done its work when it trained a body of students to follow the cheerleaders with machine-like precision. And college pro-

fessors giving evidence of having such a limited concept are not always the neophyte basking in the radiance of his newly acquired A.B. or B.S., still harboring the point of view of the undergraduate.

The typical pep meeting orator is very likely to refer to college spirit as "that intangible, undefinable something, which, etc., etc." It is very convenient to define a spring of action in this mysterious, "intangible" way. It thereby relieves one of so much responsibility for one's acts. If some mysterious force is behind one pushing one on, one can not be held to too strict account for what one does. It is the mysterious, unknown, undefinable something which is responsible. For all we know, this unknown motivating force may be some untamed animal or a maniacal spirit. Then who can blame the forcee for acting like a beast of the jungle or an evil spirit not yet cast out?

If the pep meeting orator and his audience would take the trouble (in their lucid intervals, of course) to introspect a little and to employ a little psychological analysis, which, of course, would not at all be conducive to the purpose for which the pep meeting exists, they might be able to come to closer grips with this defying intellectual problem of definition. I do not have any way near the trouble defining college spirit that the athletic orator does. But, doubtless, what I have in mind is a very different thing from what he has in mind. What he vaguely thinks of as college spirit is much too small and narrow. It is much too intensive and no way near extensive enough. That is why it peters out so quickly. I like to think of college spirit as something big enough and valuable enough to last twelve months instead of twelve weeks.

Without attempting a dictionary definition of college spirit, I should like to suggest something like the following as expressing that much-talked-of, but little-thought-about, concept. College spirit is that background of ideas, ideals and attitudes toward one's alma mater which is the dominating and directing force behind all one's acts with respect to her. Such a concept of college spirit gives it tangibility, but its greatest value lies in the fact that it makes college spirit a guiding and directing force in the college life of the student. At one college which proudly boasts of its spirit in pep meetings, in the college paper and from the chapel platform, it is the policy of the library not to purchase text-books for the stacks for the simple reason that text-books can not be kept in the library, and I never heard any one accuse the janitor of taking them. This same college tried an honor system in examinations for several years, but finally had to give it up because it would not work. Too many students, overflowing with college spirit, of course, persisted in acting dishonorably in the examination room. The inability of American colleges and universities to maintain an honor system is notorious, and yet doubtless every college which displays such inability is proud of its spirit and does not hesitate to say so.

If college students would think of college spirit as the directing force behind all their acts in college, possibly many of the acts so common on college campuses would be less common. Possibly an honor system could be made to work; possibly library books would be safe; possibly there would be less petty thieving of coats, caps, books, note books, fountain pens, etc.; possibly it would no longer be considered a display of college spirit for contesting classes to mutilate or destroy college property; possibly the annual spring destruction of city property would not take place; possibly questionable fraternity politics would not have so much to do in controlling elections to campus offices; possibly campus bootlegging would be less common; possibly students would be less inclined to litter up the campus with trash or to cut unsightly paths through its beautiful, green carpet; possibly ungentlemanly or unladylike conduct in public would not be considered "smart"; possibly scholastic, as well as athletic, accomplishment would have more attraction; possibly students would realize that a genuine college spirit, one worthy the name, and the only one that any one has any right to be proud of would demand that the possessor be a gentleman or a lady at all times, on or off the campus; for if it is college spirit that gives direction to one's college acts, a college spirit that would permit such acts as the above would not be one of which any student could be proud.

Thos. M. Thompson

Colgate University

THE PREDICTIVE VALUE OF INTELLIGENCE TESTS

IN a recent article, Nelson and Denny report certain correlations between the Terman and the Thurstone tests, on the one hand, and academic success on the other. They conclude that "in predicting success in a particular class, namely psychology one, both of the above tests are fairly satisfactory. . . . In predicting the probable success in other courses, however, both of the tests are rather mediocre, but give results comparable to those obtained on tests requiring a longer time."[1]

These conclusions are based on correlations, in themselves sufficiently reliable and decidedly in line with those usually found, ranging from r = .34 to r = .77. What does it mean when we say that tests with such correlations are "fairly satisfactory" or "rather mediocre" for prediction? Since Hull has given a fairly complete statement of the statistical aspect of prognostication as based on indices of correlation,[2] we need not attempt here a technical analysis. It may suffice to point out that a test which correlates .34 with academic grades enables one to predict those grades less than 6 per cent. better than chance. One which correlates .45 with grades yields a prediction about 11 per cent. better than chance. The best correlation cited (it is rather unusually high) gives prediction about 36 per cent. better than chance. The last, and perhaps the second, is thus of some practical value.

But let us see in detail just how much they help us. Take a test correlating .45 with grades; this would seem to be about the modal correlation in colleges. In a typical case with the usual five-step scale and an average reliability in the grading system, one could predict the placement of 34 out of 100 persons to within half a step. But one could predict similarly the placement of 31 persons in a hundred without using any test. Thus by the use of the test, the grades of three persons in a hundred are more properly predicted. When the correlation is as high as .77, one predicts the standing of about 17 persons in a hundred better than if one used no test at all. This is no doubt worth while but it is nothing to get excited about.

We must, however, guard ourselves against too negative a conclusion. For many practical purposes, we do not greatly need tests which will prognosticate achievement throughout the range of the scale which is our criterion. The Committee on Admissions of a college, for example, is chiefly concerned with predicting whether a student will fail to carry college work successfully. For this it needs a critical score and a statement of the probability that the student will reach or exceed whatever scholastic level is defined as satisfactory. The correlation of the test with grades all along the line is of minor importance. While it would be easy to overestimate the value of current tests of intelligence for this simpler function, there is little question that in this respect they are considerably more effective than as a general means of prediction.

HORACE B. ENGLISH

ANTIOCH COLLEGE

[1] Nelson, M. J., and Denny, E. C. "The Terman and Thurstone Group Tests as Criteria for predicting College Success." SCHOOL AND SOCIETY, 1927, XXVI.

[2] Hull, C. L. "The Correlation Coefficient and its Prognostic Significance." *J. of Educ. Research*, May, 1927, 1–12.

QUOTATIONS

RUTGERS AS A STATE UNIVERSITY

ALTHOUGH the Republican majority in the 1928 session of the New Jersey Legislature will strive in the interests of party harmony to avoid controversial subjects, the definite establishment of the status of Rutgers University as a state institution is a problem which can not well be deferred to another legislative session. With an important election approaching, the Republican leaders would naturally prefer to avoid issues likely to inspire discord, but the question of the state's obligations to Rutgers presses for an answer.

Until Attorney-General Katzenbach recently gave an opinion in the affirmative there was a wide difference of opinion among educators in New Jersey as to whether Rutgers was a state university, as its officers and trustees maintained, or a private institution which was receiving liberal state aid without justification. Mr. Katzenbach has held, however, that there is a contractual relationship between Rutgers and New Jer-

sey and that the institution is, in fact, a state university in a strictly legal sense.

Those educators whose interests lie primarily with the public-school system are only partly satisfied with the attorney-general's opinion. They take the position that it should be established by a legislative investigation; that all phases of the college's administration should be probed and its financial needs definitely determined. Then, if it is revealed that Rutgers is an institution for which the state is primarily responsible, a plan for acceptance of this responsibility should be adopted.

Rutgers is at present governed by a board of trustees which includes a number of state officials, but it can not in any sense be considered as under state control. Although it is referred to in all of its official literature as the "State University of New Jersey," it is not generally accepted as such by the people of the state, nor even by its own students. The general impression has been that the status of state university has been exploited primarily with a view to obtaining increased state appropriations.

The present opposition which Rutgers faces has had its origin principally in the source from which financial aid to it has come. This has been diverted in steadily increasing amounts from the receipts of the railroad tax, which under the law are to be devoted to the public-school system of the state. Friends of the school system insist that this practice shall cease and that the railroad tax receipts shall be retained in their entirety for the public schools, and that if Rutgers is to be helped financially by the state the help must come from some other source.

There is no disposition in New Jersey to discredit Rutgers as an educational institution. Its efforts to meet the needs of the state along lines of higher education are recognized and approved. The objections arise from its doubtful status, the absence of effective state control over its administration and the diversion of public-school funds for its support.

All these complaints can be met, the last through the creation of a separate fund, either through a special tax or some other means. The legislature would perform an important service to the state by finding a satisfactory solution.—*—The Herald-Tribune, New York.*

THE ADVENT OF THE JUNIOR COLLEGE

One hundred years ago education left the settled East, traveled in the covered wagon of the pioneers across the prairies and the Continental Divide to the Pacific and grew up with the country. To-day the situation is reversed. The junior-college movement, which has had its largest development in California, has only recently reached the Atlantic coast—New England last of all. The slowness of its progress recalls those processes of mental erosion that necessarily preceded the establishment of coeducation and woman suffrage among a people whose natures have taken on something from the granite hills and rock-bound coasts.

Two principal causes have led to the growth of junior colleges. Those on private foundations were originally four-year church schools, inadequately equipped and unable either to meet the requirements of the accrediting agencies for a standard college or, even less, to compete with the land-grant universities supported by state and federal governments. The greatest development, however, has been the publicly supported institutions, for the most part in states which had large urban centers and whose state universities were already crowded with thousands of students. In the former case, the junior college resulted from a process of adjustment in which the junior and senior years were eliminated. In the latter, the high school simply added the first two years of college—dealing with elementary and continuation subjects that belong quite as properly to the secondary school field as to the college. These are the two forces principally responsible for bringing into existence within a decade more than 300 junior colleges. The American Association of Junior Colleges has established standards reached by more than 100 institutions.

The future of the movement in New England is still problematical. There are no weak church schools to be strengthened by the excision of the last two years. Well-equipped colleges and technical schools abound. Distances are not a factor, as in California, or Texas. The land-grant institutions do not occupy the center of the stage, as in Michigan or Minnesota.

It is coming to be generally recognized that

the secondary-school field, both in subject-matter and in method of instruction, should include the first two years of college. This is the European custom. The German gymnasium, for example, is the rough equivalent of the period beginning with the seventh grade and going through the sophomore year of college. Its graduates enter the university on the average two years earlier than American students begin their professional studies in the graduate school. In other words, on the continent the educational system saves two years in preprofessional preparation.

The advent of the junior college raises interesting and significant questions. Why not rebuild American higher education on the European model? Why spend four years in general cultural training between high school and, for example, the law school? American graduate students are two years older than their continental confrères, but are they more mature and more intellectually competent? Is, after all, the American college justified in using four years for its work? Not a few persons believe that the junior college is the answer to these questions. Whether this be the case or not, it is obvious that the American four-year college—without a parallel elsewhere in the world—is too firmly established to be modified by any drastic methods. America will not wake up some morning and discover that, like Model T, it has disappeared. The automotive industry and education are alike in some respects—mass production, for instance. But the new model of the American college will look very much like the old one for many years to come.—*The Christian Science Monitor.*

REPORTS

RELATION BETWEEN RESPIRATORY ILLNESS AND AIR CONDITIONS IN CERTAIN SYRACUSE SCHOOLS[1]

OBJECT OF STUDY

THE New York State Commission on Ventilation, to which our commission is the successor, opened up an important line of investigation in its study of the relation between respiratory illness and the ventilation of schoolrooms. In a study of some 5,500 pupils the commission found that the children in a group of mechanically ventilated schoolrooms with an average temperature of 68.3° F. showed 18 per cent. more absence due to respiratory disease and 70 per cent. more respiratory disease among pupils in attendance than did the pupils of a group of window-ventilated gravity exhaust schoolrooms with an average temperature of 66.4° F.

This result seems of such importance that we felt it desirable that the tests should be repeated in a number of different cities and under a wide variety of conditions. The present study is the first of the new investigations to be completed.

SELECTION OF SCHOOLS

The work here reported was conducted by the commission at Syracuse, N. Y., in cooperation with the Syracuse Health Demonstration and the Department of Public Instruction, to whose members and staff our grateful appreciation is hereby expressed.

It was originally hoped in this study to duplicate the New York City work by comparing reasonably good types of fan-ventilated and of window-ventilated schools. Such a comparison will be possible during the coming winter as a result of the completion of two excellent window-supply, fan-exhaust schools. For the season of 1926–27, however, no modern window-ventilated schools were available and we were forced to content ourselves with a comparison between three schools ventilated on the plenum principle, on the one hand, and three old-fashioned furnace-heated schools with gravity-exhaust ducts, on the other.

[1] Contribution No. 1, New York Commission on Ventilation, September, 1927. The New York State Commission on Ventilation was appointed by the Governor of the State of New York in the year 1913, and made an extensive report of its investigations in 1923. In view of a reorganization of the state government which made its continuance as a State Commission impossible it was reconstituted on the invitation of the Milbank Memorial Fund as the New York Commission on Ventilation in 1926. In both its phases, the work of the commission has been supported by appropriations from the Milbank Memorial Fund.

The three plenum schools, Salem Hyde, Danforth and Seymour, were all modern buildings with plenum supply, plus direct heating, all controlled by thermostats. The Salem Hyde has a gravity-exhaust system, the other two schools fan exhausts. All three may be considered as good examples of modern mechanical ventilation.

The other three schools (Montgomery, Merrick and Townsend) were all over 40 years old, furnace-heated and with no other source of air-supply than the furnace ducts and the opening of windows. They had, however, gravity-exhaust ducts. They represent the crudest type of construction now to be found in the field of school heating and ventilation. Thus we were comparing good mechanically ventilated schools with very faulty naturally ventilated schools.

Conduct of Study

Our criterion of the success of school ventilation was the only logical and reasonable one —the actual results as indicated in the health records of the pupils. We had 1,232 children under observation in the mechanically ventilated plenum schools and 794 in the naturally ventilated furnace-gravity schools, and these pupils were under observation from November 29, 1926, to April 14, 1927. Records of absence and of its cause (as reported by parents on the slips provided for this purpose) were handed over to us by the grade teachers and, in addition, the teachers themselves made daily records of the number of children in attendance showing signs of respiratory disease. Thus our data, while not based on medical diagnoses, are derived from two independent sources, the parent as to absence due to respiratory disease —the teacher as to respiratory disease among pupils in attendance. In next year's study (as was the case in the original New York City Study) these reports will be checked by public health nurses. Imperfect as lay observations are, however, there is no reason why they should be any more imperfect in one group of schools than another and the difference between one group of schools and another is the point in which we are interested.

There were significant variations between the race stock of the families represented in the various schools which must be taken into account in interpreting our results. The Townsend School was in an almost purely Italian district, the Montgomery and Seymour Schools in districts of mixed foreign and American parentage and the Merrick, Salem Hyde and Danforth Schools in districts mainly inhabited by pupils of native parentage. In general, the family of native parentage is perhaps more likely to keep children out of school for respiratory disease than is the family of more recent immigrants, but it is difficult to see how this racial factor would affect the respiratory disease noted among pupils in attendance.

Temperature records were taken in all school rooms by teachers or by the pupils under their supervision, on thermometers tested by the commission, observations being recorded twelve times a day in the Seymour School and eight times a day in the other schools.

Results

The general results of the study are presented in Table I.

The three schools with automatic temperature control and mechanical ventilation show a general average of 3.2 per cent. for absence due to respiratory disease as against 1.8 per cent. for the three naturally ventilated (furnace-gravity) schools; and an average of 13.6 per cent. of cases of respiratory disease among pupils in attendance against 6.8 per cent. for the naturally ventilated schools.

These differences can not be accounted for by differences in age distribution as indicated in Table II.

In four grades out of the five for which comparative data are available respiratory disease absenteeism is less in the naturally ventilated furnace-gravity schools.

The difference observed can be in part explained on a basis of racial and social characteristics since one of the naturally ventilated schools (Townsend) was almost entirely Italian, and another (Montgomery) of mixed race stock. On the other hand, it will be noted that comparing Montgomery with Seymour (both of mixed stock) the naturally ventilated school is much better off, while in the schools largely of

TABLE I

ABSENTEEISM AND RESPIRATORY DISEASE IN THE SYRACUSE SCHOOLS

	Natural ventilation (Furnace gravity)			Mechanical ventilation (Plenum)		
	Montgomery	Merrick	Townsend	Salem Hyde	Seymour	Danforth
No. of pupils	325	232	237	146	707	379
Nationality of pupils—% native born parentage	65.0	91.4	4.6	91.8	62.0	85.5
Mean temp.	71.7	68.3	65.8	70.2	70.1	69.5
Average maximum temp.	72.3	71.7	70.0	75.3	72.6	71.4
Total absence*	6.5	4.1	3.7	6.4	7.7	6.7
Absences due to respiratory diseases*	2.0	2.4	1.0	3.4	2.6	3.5
Respiratory illness among pupils in attendance*	9.1	6.0	5.4	20.4	13.6	6.9

* Percentage of pupil sessions.

native stock, the naturally ventilated Merrick School shows a similar superiority to the Salem Hyde and the Danforth.

TABLE II

RESPIRATORY ILLNESS IN MECHANICALLY AND NATURALLY VENTILATED SCHOOLS BY GRADES

Absence due to Respiratory Disease, Per cent. of Pupil Sessions

Type of ventilation	Grade 2	3	4	5	6	7	8
Mechanical (Plenum)	3.7	3.7	2.8	2.7	1.9	1.8	3.8
Natural (Furnace-Gravity)	1.6	1.7	2.1	1.3	2.3	—	—

The relation of respiratory illness to average schoolroom temperatures is moderately close. The naturally ventilated Townsend and Merrick Schools with average temperatures of 65.8° and 68.3° show respiratory absence rates of 1.0 and 2.4, respectively, with respiratory illness rates among pupils in attendance of 5.4 and 6.0. The mechanically ventilated Danforth, Seymour and Salem Hyde Schools with average temperatures of 69.5, 70.1 and 70.2 show respiratory absence rates of 3.5, 2.6 and 3.4, respectively, with respiratory illness rates among pupils in attendance of 6.9, 13.6 and 20.4. On the other hand, the Montgomery School falls somewhat out of line, having the highest average temperature of any school studied, 71.7°, but with the second lowest respiratory absence rate (2.0) and only the third highest rate for respiratory disease among pupils in attendance. This is, of course, a naturally ventilated school.

If we take into account the average weekly maximum temperature, as well as the mean temperature, the relationships exhibited are more striking. In Table III it is shown that Town-

TABLE III

RELATIVE STANDING OF SCHOOLS IN RESPECT TO TEMPERATURE CONDITIONS AND RESPIRATORY ILLNESS

(Low numbers corresponding to low temperatures and low illness rates)

	Townsend	Merrick	Montgomery	Danforth	Seymour	Salem Hyde
Ventilation	F.G.	F.G.	F.G.	P.	P.	P.
Mean temperature	1	2	6	3	4	5
Average maximum temperature	1	3	4	2	5	6
Respiratory absence	1	3	2	6	4	5
Respiratory illness in attendance	1	2	4	3	5	6

send School ranks first in all respects, Merrick, second or third in all respects, Seymour, fourth or fifth and Salem Hyde, fifth or sixth. Montgomery stands somewhat better in the sickness scale than would be expected from its temperatures and Danforth somewhat worse. The two cool furnace-gravity schools (Townsend and Merrick) are clearly superior and the two hot plenum schools (Seymour and Salem Hyde) are clearly inferior; but the coolest plenum school (Danforth) does not show up as well as the warmest furnace-gravity school (Montgomery).

The agreement between average weekly maximum temperatures and respiratory disease among pupils in attendance is pronounced.

CONCLUSION

These studies confirm the conclusions of the previous commission to the effect that high air flow produced by plenum fans (particularly when combined with high room temperatures) tends to be associated with an excessive incidence of minor respiratory diseases among school children. That the incidence of such diseases even in archaic furnace-heated schools should be materially lower than in modern plenum-ventilated schools seems to us a fact of considerable significance.

C.-E. A. WINSLOW,
Chairman
RUFUS COLE
D. D. KIMBALL
FREDERIC S. LEE
GEORGE T. PALMER
EARLE B. PHELPS
EDWARD L. THORNDIKE

EDUCATIONAL RESEARCH AND STATISTICS

THE I. Q. AND THE INDIVIDUAL

I SOMETIMES wonder whether intelligence testing does more harm than good. Of all the functions that science has ever undertaken to measure, the different aspects of human intelligence are most difficult of measurement. Intelligence, even in its simplest form, is highly complex. Moreover, it is variable in the same person. It depends upon circumstances and conditions.

We have a child perform a number of tasks and call the performance an *intelligence test*. All we learn from the test is that under all the circumstances and conditions surrounding the case, the child makes such and such a score. What this child will do under other circumstances and with different types of tasks, we do not know. We should have to find this out by further experimentation.

The purpose of this paper is to give the results of a few experiments made on subjects of different age-levels in an attempt to get some light on the problem of the variability of performance by the same individual.

THE SUBJECTS AND THE EXPERIMENTS

The data here reported were from four sources: (1) the word-recognition scores of first grade children of different I. Q.'s are compared: (2) the performances of fifth grade children who differ greatly in ability as determined by an intelligence test are compared; (3) the work of college students who are very high and very low in ability as determined by an intelligence test is compared; and (4) the results of studying some individual cases are given.

THE WORD-RECOGNITION TEST

During the past two years I have given a new form of word-recognition test to 277 first grade school children. The Detroit Psychological Clinic classifies the children as high ability or X group, Y ability or median group, and Z ability or lowest group. I tabulated the word-recognition scores according to this grouping

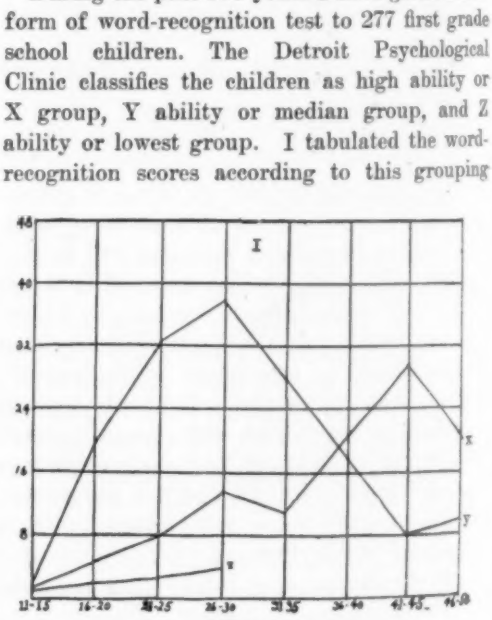

FIG. 1

and computed the averages for each of the three groups and plotted the frequency surfaces showing the distribution of the cases. The averages are:

Group	No. of cases	Average score
X	109	37.1
Y	158	29.2
Z	10	22.3

The groups are clearly separated as far as averages are concerned, but they are not separated if we consider individuals. Figure 1 shows the distribution of the cases by groups. The Y children are represented even in the highest scores and the X children go down almost to the lowest scores. Even the Z children overlap the X children and reach the Y median.

By a study of the individual cases I find that twenty Y children are better than the average of the X children, and only two of them are lower than the lowest X child. Only one of the ten Z children is lower than the lowest X child.

A Study of X and Z Fifth Grade Children

I took the twenty X and the seventeen Z fifth grade children of the Roosevelt School and gave them two types of experiments: (1) a visual ideational learning test and (2) a substitution test.

In the visual learning test the X children averaged 11.45 and the Z children averaged 4.11. The distribution of scores is shown in Figure II. The scores of the X children are represented by x's and those of the Z children by dots. There is only one case of overlapping.

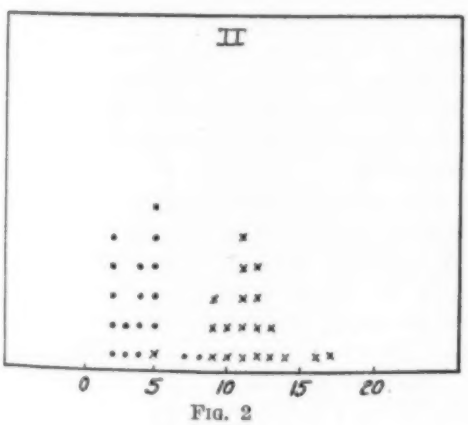

FIG. 2

In the substitution test I gave the children six five-minute practices, three on the first day and three on the second day. Their scores were as follows:

Practices	1	2	3	4	5	6
X group scores	84	104	109	126	131	140
Z group scores	68	76	84	96	101	107

The averages of the two groups for each practice are distinct, the X group average being always better, but when we consider the individuals we find much overlapping as shown in Figure 3. The best Z is above the average

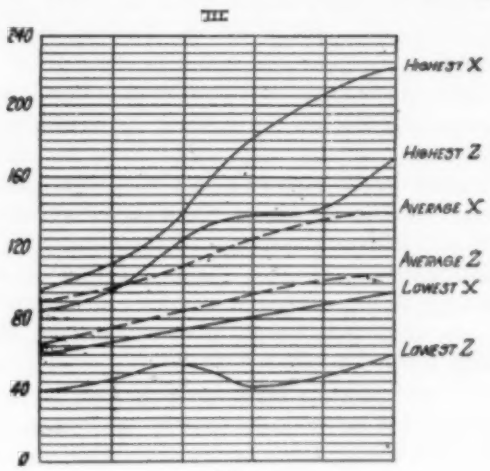

FIG. 3

X and the poorest X is below the average Z at this type of learning.

We may say, therefore, that if we divide the children into three groups on the basis of an intelligence test, the highest and lowest of these groups have *much overlapping* when compared with reference to ability in the type of learning required in the digit-letter substitution experiment. Whereas in the ideational learning test the groups are completely separated, just as they are in the intelligence test.

A Study of College Students

Freshmen entering Detroit Teachers College are given the Detroit Advanced Intelligence Test. Of 300 freshmen, I took for consideration and study the upper twenty-one and the lower twenty-one as determined by the test.

The high ability students made an academic record the first semester 30 per cent. higher than the low ability students, but in practice teaching, only 5.2 per cent. higher. In fact the person making the second highest score in the intelligence test, failed in teaching because of the lack of something which the intelligence test failed to measure. For four semesters I have taken a few of the very highest and a few of the very lowest ability students as determined by the intelligence test and made extensive laboratory experiments upon them. In every case I have found some of the low ability students excelling some of the high ability students in certain types of learning. It is rare to find the same student either uniformly high or uniformly low in all the learning experiments.

It appears from these four studies that if we group subjects on the basis of an intelligence test, the grouping will remain about the same if made on the basis of ability to perform tasks more or less similar to the tasks of the test. Most intelligence tests are of the literary type and measure, at least roughly, ability to do literary tasks. When the subjects are required to do tasks quite unlike those of the tests, the high group, as determined by the intelligence test, still makes a higher average than the low group, but many individuals of the low group do better than some of the individuals of the high group.

There is a danger in schools where mental tests are given that undue weight will be attached to the results of the tests. We should always remember that when we measure a child we measure only *what we measure* and should not make inferences concerning what we have not measured. Until we know much more than we now do about the interrelationships of human functions we should measure *each function separately.*

Some Individual Cases

The results of studying three individual cases will here be briefly mentioned. These cases are good illustrations of what one is likely to find in an analytic study of single individuals.

The first case is a twelve-year-old boy who had a Binet I. Q. of about 140. I subjected the boy to experimentation in several different forms of learning, and I found that in some learning experiments of the literary type the boy was equal to college sophomores, while in some types of motor learning he was scarcely better than the average of eight-year-old boys.

The other two cases are: a boy of high I. Q. and a girl of low I. Q. The records of both cases are shown graphically in Figure 4. The

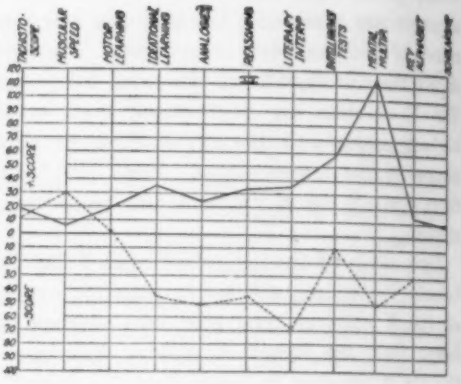

Fig. 4

solid line indicates the various experimental records of the boy having the high I. Q., and the dotted line shows the various records of the girl having a very low I. Q.

The I. Q. in each case was, of course, determined by an intelligence test of the literary type. It is seen from the graphs that the subject of high I. Q. is barely above the college average in some functions, while the subject of low I. Q. is above the college average in some functions.

It may be that every individual has a central or common intellective factor, but there is certainly a very great difference in the efficiency of various functions. It may of course be that experience has much to do with these differences, but they surely exist, and in some cases are very great.

It is probable that the I. Q. is measurably different for every function. An I. Q. obtained by combining measures of many functions is of little use, for it is not likely to represent the actual ability in any particular function.

W. H. Pyle

Teachers College,
Detroit, Michigan

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